

Zoological Record

Vol. 90, Sect. 11, 1953

TRILOBITA

(for 1952)

COMPILED BY

J. T. TEMPLE, M.A., Ph.D.

LONDON

PUBLISHED BY

THE ZOOLOGICAL SOCIETY OF LONDON

PRICE THREE SHILLINGS

December, 1955

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II.—SUBJECT INDEX

GENERAL LITERATURE AND HISTORY

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74; Dates of "legitimising" (by being figured) of R. Richter's 1909 unfigured spp. summarised, R. & E. RICHTER 75; Historical analysis of generic nomenclature, WELLER 113.

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Museum Collections.—Revision of Ordovician collections from Ireland (Tyrone) mainly those of Portlock 1843, REED 69.

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Revision of Nomenclature.—Proposed to ICZN that *Cunningella* Reed 1942 be placed on Official List of Generic Names, and type of *C.* be designated as *Phillipsia jonesi* Portlock 1843, STUBBLEFIELD 98; Proposal to suppress *Polytomurus* Hawle & Corda 1847 in favour of *Dionide* Barrande 1847, WHITTINGTON 116; *Plagiops* Kegel 1931 non Amyot 1846 renamed *Plagiolaria*, KEGEL 37; *Pseudosarkia* Kobayashi 1951 non Rasetti 1944 renamed *Saukioides*, KOBAYASHI 42; *Psilocephalina* Stubblefield 1951 non Hsü 1948 renamed *Psilocephalinella*, KOBAYASHI 40; *Borthaspis* Stubblefield 1951 a junior synonym of *Psilocephalinella* Kobayashi 1951, WHITTARD 115; *Telephus* Barrande 1850 non Gisl 1848 renamed *Telephina*, MAREK 52; *Anisonotus* Raymond 1920 non Milne Edwards 1879 renamed *Anisonotella*, Alsataspidae Turner 1940 renamed Selenecemidae as *Alsataspis* T. a subjective synonym of *Seleneceme* Clark 1924, *Lekanaspis* Raymond considered nom. nud., WHITTINGTON 118; *Cobboldia* Lermontova 1940 non Brauer 1887 renamed *Neocobboldia*, *Pagetina* Lermontova 1940 non Barnard 1931 declared a junior homonym, *Paradiscus* Kobayashi a subjective synonym of *Serrodiscus* R. & E. Richter, *Deltadiscus* and *Spinodiscus* K. of *Eodiscus* Hartt, *Brevidiscus* K. of *Calodiscus* Howell, *Delgadoia* Vogdes *Delgadodiscus* K. & *Alemtejoia* K. of *Weymouthia* Raymond, *Hebediscus* Whitehouse of *Dipharus* Clark, RASETTI 65; *Delgadella* Walcott 1912 (described originally as a brachiopod) considered valid genus for *Delgado's* 1904 Eodiscids, and *Delgadoia* Vogdes, *Delgadodiscus* Kobayashi & *Alemtejoia* K. regarded as synonyms, TEIXEIRA 106; *Acheilus* Clark 1924 has priority over *Acheilus* Raymond 1924, *Theodenisia* Clark 1948 considered synonymous, *Ithycephalus* Resser 1938 a sub-

jective synonym of *Kingstonia* Walcott 1924, *Millardia* Walcott 1916 non Thomas 1911 renamed *Densonella*, *Blountina* Lochman 1944 a subjective synonym of *Protillaenus* Raymond 1937, *Greylockia* and *Coleopachys* Raymond 1937 considered synonyms of *Meteoraspis* Resser 1935, *Hysteroleura* and *Apedopyanus* Raymond 1937 believed synonyms of *Bolaspidella* Resser 1937, SHAW 88; *Leonaspis* R. & E. Richter 1917 preferred to *Acantholoma* Castelnau 1843 and *Leonaspidinae* to *Acanthalom[at]inae*, R. & E. RICHTER 76; *Andesaspis* Kobayashi 1935 a synonym of *Parabolinopsis* Hoek 1912, HARRINGTON & LEANZA 26; Ulrich & Resser's 1930 and 1933 spp. of *Dikelocephalids* analysed and many considered to be synonyms, RAASCH 64; *Phacops pulchellus* Foerste 1887 a junior homonym of *P. p.* Linnarsson 1866, TEMPLE 107.

STRUCTURE

General Work.—LOCHMAN 49.

Terminology.—"Preglabellar area" used for entire area of cephalon in front of the glabella, WHITTINGTON 118.

Segmentation of cephalon.—Adult cephalon considered to contain (i) ocular segment comprising free cheeks (with eyes) and rostrum, with hypostome as sternite, (ii) frontal region comprising pre-glabellar field occasionally with a boss, (iii) "x segment," (iv) pre-antennular segment, (v) antennular segment—the last three forming axially the frontal lobe of the glabella, (vi–ix) post-oral segments forming axially the rest of glabella; primary segmentation of protaspis discussed, three primary segments suggested, HUPÉ 33; Cephalon considered to comprise an acronal region (forming axially the frontal lobe of glabella and bounded posteriorly by the ocular ridges and post-ocular facial sutures) and four post-oral segments (forming axially the rest of glabella), SNODGRASS 93; In *Redlichia chinensis* glabella of protaspis is 5-segmented but the frontal lobe becomes secondarily subdivided into 2 parts; segmentation present on cheeks and extends also on to marginal rim, KOBAYASHI & KATO 43; Primitive condition of glabella considered to be that with four glabellar furrows and occipital furrow, MOORE 54.

Cephalic fringe in *Dionididae* stated to be bilaminar and pitted as in *Cryptolithidae*, but with girder of lower lamella marginal, WHITTINGTON 118.

Glabella.—Primitive condition considered to be that in which glabella tapers gently forward and reaches the anterior margin of cephalon, MOORE 54; Segmentation discussed; pre-glabellar boss of *Ctenocephalus* considered as part of a secondarily sub-divided glabella or "schizoglabella"; frontal lobe of *Daguinaspis* with two additional pairs of furrows interpreted as tri-segmented, HUPÉ 33; Demonstrated that in some spp. of *Encrinurus* the pre-glabellar furrow is reduced and part of "pre-glabellar field" [anterior border] is incorporated with the true glabella, ROSENSTEIN 79.

Glabellar furrows.—Claimed that in *Phacopids* anterior glabellar furrows are oblique and composite, TEMPLE 108.

Occipital spine.—In *Redlichia chinensis* a spine present in immature stages but lost in the adult, KOBAYASHI & KATO 43.

Anterior pits.—In *Dalmanitina* pits present in protaspis and early post-protaspis stages, disappear in adults, TEMPLE 108.

Eye-ridges.—Considered to be not present in earliest protaspides of *Redlichia chinensis*, developing subsequently, KOBAYASHI & KATO 43; Ocular ridges of *Daguinaspis* and other Lower Cambrian forms considered to be bipleurial and formed by pre-antennular and antennular segments, in other trilobites (when present) monopleurial and formed by antennular segment alone, HUPÉ 33; In *Olenellidae* four stages recognised in development of the eye line from undifferentiated "protopalpebral ridge" of early protaspis, TASCH 103.

Eyes.—Stated to be schizochroal in *Pagetia*, ÖPIK 61; Lens formula for *Phacopidella* (*Nephronomma*) *drepanomma*, ERBEN 16; Blind *Eodiscidae* considered to be descended from *Pagetiidae* by loss of eyes and sutures in several lines of descent, RASETTI 65.

Cephalic sutures.—Barrande's *grande suture* considered a natural unit limiting the ocular segment posteriorly, HUPÉ 33; In *Entomaspis* anterior and posterior

branches of facial suture run parallel and close together towards genal spine, the anterior branch passing into a marginal suture around cephalon; no ventral sutures, the free cheeks (doublure) being fused and bearing the genal spines, RASETTI 66.

Facial sutures.—*Olenellids* considered to have "advanced opisthoparian" sutures, RICCIO 71; In *Olenellus* cracks which have been interpreted as anterior facial sutures are seldom symmetrical and are attributed to compaction, BEST 3; In *Redlichia chinensis* anterior branches are initially sub-parallel (in meraspid degree 3) but diverge subsequently to become almost transverse in adult, KOBAYASHI & KATO 43; In *Catilliocephala lata* both proparian and opisthoparian specimens are found; proparian condition not sufficient to separate Nepeidae from Menomonidae, SHAW 88; *Olenidae* interpreted to include opisthoparian and proparian forms, HARRINGTON & LEANZA 26.

Ventral sutures.—Lacking in *Entomaspis*, RASETTI 66; Stated to be lacking in Agnostidae, unknown in Eodiscidae and not observed (although presumably present) in Pagetiidae; connective sutures figured in *Oryctocephalus* but considered to be possibly preservational cracks or sutures in a state of symphysis; connective sutures but no hypostomal sutures in Corynexochidae, Dolichometopidae, Dorypygidae, Zaccanthoididae except in *Ogygopsis* where h. suture may be functional; in *Bathynotus* oblique sutures outlining hypostome anteriorly, no rostrum; connective sutures accepted in Ptychopariids; in *Dikelocephalus* some spp. show a median suture, others do not; connective sutures in *Catilliocephala*, median suture in spp. of *Acheilus*, *Leiocoryphe*, *Stenopilus*, *Housia*, no sutures in spp. of *Hungaia*, *Lauzonella*, *Leiocoryphe*, *Levisella*, *Loganellus*, "Platycolpus" capax, *Entomaspis*; Barande's *grande suture* considered a unit, Richter's 1932 theory of subsequent development of rostral suture discounted and Resser's observations on the lack of a rostral suture in Lower Cambrian forms not upheld, RASETTI 67.

Cephalic spines.—Young stages of *Menoparia* and/or *Scinocephalus* interpreted as showing procranial, parial

and metacranial spines (the latter considered proto-pygidial by Ross 1951); lateral spines in front of metacranial (genal) spines of young *Pseudocybele* considered adventitious, RAW 68; Long "fish-hook" spines on librigenes assigned to *Idahovia* considered to originate in front of genal angle and orientated so as to curve forwards beyond anterior margin of cephalon, BELL, FENIAK & KURTZ 2.

Genal spines.—In *Olenellus insolens* bases of spines move relatively back during ontogeny [text-fig. 6 non text], in *O. fremonti* and *O. bristolensis* positions of spines independent of age, RICCIO 71; Supra-marginal spines in Selenopeltidae and Ceratocephalidae discussed, possible homology with thoracic segments suggested, ERBEN 16.

Intergenal spines.—Some spp. of *Olenellus* have intergenal spines in young stages which are lost in adults, *O. fremonti* never has spines, RICCIO 71; Described in a meraspid cephalon of *Redlichia chinensis*, KOBAYASHI & KATO 43.

Rostrum considered homologous with clypeus of Insecta, Myriapoda and some Merostomata, HUPÉ 33.

Hypostome considered homologous with labrum of Insecta and Myriapoda, HUPÉ 33; Enrolled *Trinodus* stated to show no trace of hypostome, suggested that agnostid hypostome was uncalcified; in *Ogygopsis* unlike other Corynexochids hypostome is not always fused with rostrum; in Ptychopariids suggested that hypostome separated from rostrum by uncalcified membrane, RASETTI 67; In *Hypodicranotus* hypostome long and forked, considered to extend the whole length of thorax, figured in place, WHITTINGTON 117; Differences between hypostomes of *Olenellus* and *Paedeumias* considered of generic value, RICCIO 71; Of *Redlichia chinensis* young stages described, figured in place, impression of hypostome on dorsal surface considered to cause secondary grooves bounding eye-ridges, KOBAYASHI & KATO 43; Of *Ceratopyge forficula* (Sars) described, SKJESETH 91; Described and figured in place in *Pagatia*, ÖPIK 61; Figured in place for *Oryctocephalus*, *Olenoides*, *Bathynotus*, RASETTI 67.

Doublure.—Paired pits on the cephalic doublure of *Hypodictyon* and other Remopleuridids, WHITTINGTON 117.

Terraced lines on doublure.—Stated to occur in *Pagetia*, ÖPIK 61.

Thoracic segments.—Adult *Redlichia chinensis* has 14 free segments, the fifteenth being free pleurally but its axis being fused with the pygidium, KOBAYASHI & KATO 43.

Pleurae.—Absence from the thoracic segments of *Bohemilla* considered a difference of fundamental importance from the Trilobita, WHITTARD 114.

Axial spines.—In *Redlichia chinensis* spines on 4th and 11th thoracic segments during immature stages, the former disappearing before the adult stage, KOBAYASHI & KATO 43.

Terminal pygidial spine.—Earlier subsp. (*praenolens*) of *Acaste* (*Acastella*) *nolens* (L. Devonian) has no spine while later subsp. (*nolens*) has, R. & E. RICHTER 75.

Lateral pygidial spines.—Within *Tsinania humilis* paired spines are lost, KOBAYASHI 42.

Composition of integument.—Stated to be composed of calcium carbonate and calcium phosphate, the latter up to 30% in some cases, MOORE 54; Olenellids from California stated to be composed of chitin, absence of their ventral surfaces may be due to differences of composition from dorsal test, RICCIO 71; Suggested that protaspis exoskeleton [of *Menoparia* and/or *Scinoccephalus*] was purely organic and curled up on being sloughed; integuments of trilobites considered to be originally mainly aragonite later coarsely crystallised to calcite or silicified, RAW 68.

Structure of integument.—In *Ptychoparia bretonensis* a smooth inner layer and a thick punctate outer layer, HUTCHINSON 35.

Tubercles.—In *Encrinurus punctatus* tubercles on glabella are arranged in a definite pattern, and longitudinal and transverse rows can be recognised; pygidia (175 analysed) can be grouped according to distribution of tubercles into (i) forms with tubercles on axial rings 2, 5/6, 8/10, 13/14, 16/19, 21/24, 25/29 while tubercles of pleurae 3 and 6 may be displaced distally (68.1%),

(ii) those with tubercles on rings 1, 4/5, 7/9, 11/13, 15/18, 19/23, 24/26 and tubercles of pleurae 2 and 5 displaced distally (30.2%), and (iii) those with axial tubercles as the last but tubercles of pleurae 3 and 6 displaced (1.7%), ROSENSTEIN 79.

Appendages.—*Precoxa* of Störmer suggested to be not a true movable segment but an immovable *basicoxite* or basal ring of coxa separated only by an external groove; distal claw accepted as a segment and appendage considered eight-segmented and generalised; lateral branch considered an epipodite, SNODGRASS 93.

PHYSIOLOGY

Enrolment.—*Hypodictyon* considered unable to enrol owing to length of hypostome, WHITTINGTON 117.

Nervous system.—Eye line considered to indicate course of optic nerve, TASCH 103.

Circulatory system.—Axial glabellar structures in protaspides of *Redlichia chinensis* interpreted as indicating heart or pericardial sinus, KOBAYASHI & KATO 43.

Blindness.—In some Proetid stocks degeneration of the eyes begins in the crinoidal facies of Lower Devonian and is considered not an adaptation to the dysphotoc conditions of the Upper Devonian cephalopod facies, ERBEN 19.

DEVELOPMENT

Ontogeny of *Redlichia chinensis* described from anaprotaspis to adult, three metaprotaspis stages being recognised; meraspis stages divided into *ana-meraspis* (without an open facial suture—but this stage may be lacking in *R. c.*) and *meta-meraspis* (with an open facial suture); immature hypostomes also described, KOBAYASHI & KATO 43. Development of isolated cranidia and pygidia of *Dalmanitina olini* described starting from protaspis of glabellar length 0.51 mm.; anterior pits found in protaspis and early post-protaspis stages, do not occur in cephalon longer than 2.8 mm.; claimed that anterior pits of protaspis are in front of anterior glabellar furrows to which they become subsequently joined by oblique outer parts of adult anterior

g.f.'s; immature pygidia show pleurae produced into free spines, the oblique furrows wide and deep, number of pygidial segments becomes constant early, TEMPLE 108; Growth-stages of *Olenellus* spp. illustrated, RICCIO 71; Reinterpretation of *Menoparia* and/or *Scinocephalus*, and *Pseudocybele*, RAW 68.

Growth.—In *Dalmanitina* frontal lobe of glabella grows in sagittal length as fast as the rest of glabella (termed "stalk"), TEMPLE 108; Axis of thorax becomes proportionally wider during ontogeny of *Redlichia chinensis*, KOBAYASHI & KATO 43.

Ecdysis.—Moult-stages tentatively recognised in *Olenellus insolens*, not recognisable in other olenellids, RICCIO 71; Suggested that *Redlichia chinensis* moulted 15 times before holaspis stage 1 cm. long, KOBAYASHI & KATO 43.

EVOLUTION AND CLASSIFICATION

General works (theories).—NEWELL 59; Relation of ontogeny and phylogeny of *Redlichia*, KOBAYASHI & KATO 43.

Phylogeny.—Trilobita considered fundamentally monophyletic but as branching took place in pre-Cambrian they are effectively polyphyletic, KOBAYASHI & KATO 43; Olenidae, HARRINGTON & LEANZA 26; Dicranurinae, ERBEN 17; Saukiinae considered to be descended via Ptychaspidae and conaspids from *Parabolina*; Dikelocephalinae (and Osceolinae) via *Briscoia* from *Wilbernia*, RAASCH 64; Trinucleidae could be derived from *Entomaspis* by fusion of the two branches of the facial suture, but discovery of intermediate forms needed to substantiate hypothesis, RASETTI 66; Suggested that *Sphaerexochinae* were derived from *Acheilus* (Catillicephalinae) of Upper Cambrian (Trempealeau), *Catillicephalus*, *Distazeris* and *Madarocephalus* being Dresbach offshoots from the same root as *Acheilus*; Tsinaniidae considered ancestral to Asaphids and to have arisen from *Maryvillia*, SHAW 88; Tsinanidae may be derived from *Mansuyia* (or similar form) by effacement and loss of paired pygidial spines, KOBAYASHI 42; Presence of connective sutures in Ilaenidae and Scutellidae considered to make derivation from corynexochid stock unlikely; majority

of Upper Cambrian forms considered descendants of ptychopariid stock, RASETTI 67.

Lineages.—*Proetus* (*Cornuproetus*)—*Proetus* (subgen. n.)—*Drevermannia* (*Palpebralia*) showing degeneration of the eyes, ERBEN 19; *Asteropyge* (*Comura*) spp. (L. to U. Devonian) with increase in number of pygidial axial rings, R. & E. RICHTER 75; *Sphaerophthalmoides* regarded as continuation of *Leptoplastus*—*Ctenopyge*—*Sphaerophthalmus* line of descent, HUTCHINSON 35; *Ampyx nasutus* considered to have developed from *A. pater* or allied sp., SKJESETH 91.

Extinction of some blind Proetid stocks considered to be due to phylogerontic overspecialisation, ERBEN 19; Decline of the trilobites in late Palaeozoic may be correlated with rise of the fishes, NEWELL 59.

Variation.—*Dalmanitina mucronata* and *D. olini* considered to form end terms of a wide range of variation, for practical purposes former sp. interpreted in a wide sense and latter in a narrow sense, TEMPLE 107.

Biometry.—Relation of width to length in cephalon of *Olenellus* and *Paedumias* is approximately linear; frequency distributions of "glabellar ratio" (measuring the relative positions of the genal spines) and value in degrees of genal angle plotted for spp. of *Olenellus* and considered to vary independently of each other and of glabellar length, RICCIO 71; Various cranial measurements plotted against glabellar length in *Catillicephalus*, method used to separate *C. lata* and *C. fowleri*, SHAW 88.

Classification (principles of).—Proparian or opisthoparian condition of facial suture considered not of superlative importance, SHAW 88.

Classification.—KIELAN 39; Six orders recognised: Protoparia, Proparia, Opisthoparia, Hypoparia, Eodiscida, Agnostida, MOORE 54; New order Metaparia erected for Olenellidae; Beecher's orders discussed, Hypoparia considered polyphyletic, Proparia and Opisthoparia considered inadequately differentiated, KIELAN 38; Eodiscida including Eodiscidae and Pagetiidae considered sharply separated from Ag-

nostida and other trilobites, Eodiscidae probably derived from Pagetiidae along several lines of descent, RASETTI 65; Eodiscidae including both *Eodiscus* and *Pagetta* considered as connecting links between Agnostidae and conventional trilobites, recent classifications of Agnostids and Eodiscids considered artificial, ÖPIK 61; Smooth Upper Cambrian forms considered as belonging to Ptychopariidae Richter and divided into: Tsinaniidae Kobayashi, Plethopeltidae Raymond, Asaphiscidae Raymond including Kingstoniinae Kobayashi and Asaphiscinae Kobayashi; Menomonidae and Nepeidae combined but regarded as only a subfamily of Ptychopariidae, SHAW 88; Olenidae divided into Oleninae, Triarthrinae, Leptoplastinae and Pelturinae; Troedsson's subdivision of Ceratopygidae considered artificial, HARRINGTON & LEANZA 26; Saukiinae considered of different origin from Dikelocephalinae and raised to family status, necessity of recognising Osceolinae questioned, RAASCH 64; Ceratocephalidae classified into Ceratocephalinae, Miraspininae and Dicranurinae, with *Ceratourus*, *Proceratocephala* and *Drummuckaspis incertae subfamiliae*, ERBEN 17.

ECOLOGY AND HABITS

General.—LOCHMAN 49.

Abundance.—At different horizons in Carboniferous, SCHWARZBACH 86; Number of genera per million years declines from Cambrian onwards with a minor peak in Devonian; total number of genera 1094, NEWELL 59.

Migration.—Significance of *Olenellus* and *Protenetus* together in Oberlausitz, SCHWARZBACH 85; *Centropleura* of Atlantic Middle Cambrian province described from Gaspé, Canada, HUTCHINSON 34; Appalachian Middle Cambrian genus *Acrocephalops* occurs at Cape Breton in Atlantic province fauna, HUTCHINSON 35; *Paradoxides oelandicus* fauna unknown outside Scandinavia, HENNINGSMOEN 31; *Plataspella* - *Kindbladia* - *Cheilocephalus* - *Xenocheilos* faunule of *Elvinia* zone (Upper Cambrian) occurs apparently later in Pennsylvania than in Texas, possibly due to migration, WILSON 119; Ordovician of Collon and Grangegeeth, Eire, similar to Balclatchie of Girvan, Scotland, and Kuckers Series of

Esthonia, HARPER 25; *Dalmanitina mucronata* stock probably migrated from Bohemia via Poland and Sweden to Northern England, TEMPLE 107.

Habits.—Cambrian forms considered to be probably all benthonic, LOCHMAN 49; *Pemphigaspis* considered adapted to quasi-planktonic existence, TASCH 104; Movements of thorax and pygidium of *Hypodicranotus* restricted by hypostome, floating or swimming habit tentatively suggested, WHITTINGTON 117.

Feeding habits.—Suggested that forms with narrow glabella were mud eaters, those with dilated glabella (*Proparia*) herbivorous, H. & G. TERMIER 110.

Tracks.—Silurian, RUSCONI 82.

DISTRIBUTION AND FAUNAS

Cambrian.—Australia (Northern Territory), ÖPIK 61; Bohemia, ŠNAJDR 92; Britain (Shropshire), WHITTARD 115; Canada (Alberta and British Columbia), WILSON 120; Canada (Nova Scotia), HUTCHINSON 35; Japan, SHIKAMA 89; Sardinia, SCHWARZBACH 87; U.S.A. and Canada, RASETTI 67; U.S.A. (Arizona) and Mexico (Sonora), STOYANOW 96.

Cambrian (Lower).—Canada (British Columbia), BEST 3; Germany (Oberlausitz), SCHWARZBACH 85; Manchuria, KOBAYASHI & KATO 43; Morocco, HUPÉ 32; Portugal (Haut-Alemtejo), TEIXEIRA 106; U.S.A. (California), RICCIO 71.

Cambrian (Lower and Middle).—Canada (Arctic Archipelago), KURTZ, McNAIR & WALES 45; Mexico, COOPER & ARELLANO 14; LOCHMAN 49; Morocco, NELSNER & POCTEY 58; Sardinia and France (Montagne Noire), GÈZE 22; U.S.A. and Canada, RASETTI 65.

Cambrian (Middle).—Argentina (Mendoza), RUSCONI 80, 81, 83; Bohemia, HAVLÍČEK & ŠNAJDR 30; Canada (British Columbia), ÖPIK 61; Canada (Quebec), HUTCHINSON 34; LAVERDIÈRE 46; Mexico (Sonora), STOYANOW 97; Norway (Rogaland), HENNINGSMOEN 31; Spain (Aragon), MELÉNDEZ & HEVIA 53; Spain (Asturias), GARCÍA-FUENTE 21; Spain (León), ALMELA & REVILLA 1; Spain (León and Asturias), GÓMEZ DE LLARENA 24; Spain (south-western), LOTZE 50; Sweden (Öland), WAERN 112.

Cambrian (Upper).—Argentina (Mendoza), RUSCONI 82; Asia, KOBAYASHI 42; Canada (Quebec), SHAW 88; China (Jehol), KOBAYASHI 41; U.S.A., RAASCH 64; U.S.A. (Minnesota and Wisconsin), BELL, FENIAK & KURTZ 2; U.S.A. (Missouri), RASETTI 66; U.S.A. (Pennsylvania, Virginia, W. Virginia, Maryland), WILSON 119; U.S.A. (Vermont), SHAW 88.

Tremadoc.—Argentina, HARRINGTON & LEANZA 26; Bohemia, KOBAYASHI 40; Canada (Nova Scotia), HUTCHINSON 35.

Ordovician.—Bohemia, HAVLÍČEK 27; HAVLÍČEK & PRANTL 28; HAVLÍČEK & ŠNAJDR 29, 30; SVOBODA & PRANTL 102; WHITTARD 114; WHITTINGTON 118; Britain, WHITTARD 114; Britain (Shropshire), WHITTARD 115; Britain (Wales), WHITTINGTON 118; Burma, WHITTINGTON 118; Canada (Quebec), LAVERDIÈRE & STAUBLE 47; STAUBLE 94; WHITTINGTON 118; China, CHANG 8; KOBAYASHI 40; Ireland (Tyrone), REED 69; Japan, SHIKAMA 89; Russia, KRAMARENKO 44; Russia (Kazakhstan), BOBOVIKOV 5; U.S.A. (Virginia), WHITTINGTON 118.

Ordovician (Lower).—Norway (Hedmark) & Sweden, SKJESETH 91; Sweden (Dalarna), JAANUSSON & MUTVEI 36; Sweden (Nerike), TJERNVIK 111.

Ordovician (Lower and Middle).—Canada (Arctic Archipelago), KURTZ, MCNAIR & WALES 45; Sweden (Scania), NILSSON 60.

Ordovician (Middle).—Eire, HARPER 25; U.S.A. (Colorado), FREDERICKSON & POLLACK 20; U.S.A. (New York), CHENOWETH 10.

Ordovician (Middle and Upper).—Australia (N.S.W.), STEVENS 95.

Ordovician (Upper).—Bohemia, CHLUPÁČ 11, 12, 13; MAREK 52; Sweden and Britain, TEMPLE 107, 108; U.S.A. and Canada, WHITTINGTON 117.

Silurian.—China, YIN 121; Esthonia and Gotland, ROSENSTEIN 79; France (Armorica), PILLET 62; France (Hérault), CHAUBET 9; Japan, SUGIYAMA 101.

Silurian (Lower).—Australia (Victoria), GILL 23; Britain (N. England and Wales), TEMPLE 107.

Silurian (Upper).—Bohemia, PŘIBYL & ERBEN 63; Europe, BEYER 4; Portugal, CARRINGTON DA COSTA 7.

Devonian (Lower).—France (Armorica), PILLET 62; Germany and Bohemia, PŘIBYL & ERBEN 63; Germany, LEHMANN 48; R. & E. RICHTER 75; Germany (Harz), ERBEN 16; Germany (Hesse), DAHMER 15; Spain (Sierra Morena), R. & E. RICHTER 75.

Devonian (Middle).—Germany, ERBEN 16; R. & E. RICHTER 75, 76; Germany & Bohemia, PŘIBYL & ERBEN 63; Spain, RODRÍGUEZ 78; U.S.A., STUMM 99; U.S.A. (New York), RICKARD 77.

Carboniferous.—Japan, SHIKAMA 89.

Carboniferous (Lower).—Spain (Asturias), GARCÍA-FUENTE 21.

Carboniferous (Upper).—Hungary, SCHRÉTER 84.

Permian.—Hungary, SCHRÉTER 84.

III.—SYSTEMATIC INDEX

N.B.—The numbers in large Clarendon type refer to the list of Titles where the full reference will be found; those in small Clarendon type to the volume number of the reference. Since all the species of the group are fossil, the † used elsewhere in the Zoological Record to indicate fossils is here omitted.

Abadiella meteora [nom. nud.—gen. et sp. nondescr.] Cambrian (Lower) Morocco p. 480, HUPÉ 32.

Acadagnostus acadicus (Dawson) [so attributed rather than to Hartt] var. *declivis* Matthew p. 68 pl. i fig. 1, HUTCHINSON 35.

Acanthaloma Conrad 1840 considered genus sine specie, suppression urged p. 111, R. & E. RICHTER 76.

Acanthaloma (Acanthaloma) laportei (Hawle & Corda) p. 289 pl. xx figs. 11–12 text-figs. 44a–b, A. (A.) n. sp. [ex aff. *hoernesii* (Barrande)] p. 290 text-fig. 45, A. (A. ?) *glabrata* (A. Roem.) discussed p. 291 pl. xx fig. 5 text-fig. 46a–b, A. (A. ?) cf. *g.* pl. xx fig. 6 text-fig. 46c, A. (*Kettneraspis*) *pigra* (B.)

considered distinct from *A. (A. ?) g.* and differences tabulated p. 297 pl. xx figs. 2-3 text-figs. 47a-b, *A. (K.) cf. p.* pl. xx fig. 1 text-fig. 48, *A. (K. ?) n. sp.* [ex aff. *truncata* H. & C.] p. 299 pl. xx fig. 4 text-fig. 49, ERBEN 16.

Acanthaloma mirka sp. n. Ordovician (Upper) Bohemia p. 436 pl. ii fig. 3, MAREK Sborn. geol. Ust. čsl. 19 (Pal.) 1952.

Acanthalomatinae Prantl & Přibyl 1949 considered correct form of subfamily name Acanthalominae P. & P., replaced by Leonaspidinae [quod vide] p. 110, R. & E. RICHTER 76.

Acantholoma Castelnau 1843 with type *A. conradi* C. 1843 considered valid but suppression (in favour of *Leonaspis* R. & E. Richter 1917) urged on grounds of nomenclatorial stability and on the principle of letting sleeping dogs lie p. 111, R. & E. RICHTER 76.

Acantholoma Conrad 1841 considered genus sine specie since *A. spinosa* C. 1841 is nom. nud., suppression urged p. 111, R. & E. RICHTER 76.

Acanthopyge Hawle & Corda pygidium compared with that of *Lobopyge* gen. n. [quod vide] text-fig. 2, *A. n. sp.* [ex aff. *haueri* (Barrande)] p. 142 pl. ix fig. 1 text-fig. 1, *A. parvula* (Novák 1890) pygidium described for first time p. 144 pl. x figs. 7, 7', pl. xi fig. 1, pl. xii fig. 1, PŘIBYL & ERBEN 63.

Acanthopyginae.—*Lobopyge* gen. n., *Radiolichas* Reed and tentatively *Diplo-lichas* Phleger referred to subfamily p. 168, PŘIBYL & ERBEN 63.

Acaste (*Acastella*) Reed 1925 characters discussed and type taken as *A. spinosa* (Salter 1864) not *A. macrocentrus* Reed 1927, *A. (A.) nolens* sp. n. [nom. nud. R. Richter 1909] p. 89, *A. (A.) n. nolens* subsp. n. p. 91 pl. i figs. 1-3, pl. iv fig. 20, (? fig. 24 hypostome tentatively assigned), *A. (A.) n. prae-nolens* subsp. n. p. 91 pl. iv figs. 21-22, *A. (Acastoides)* Delo 1935 discussed and diagnosis given, *A. (A.) henni* (R. Richter 1916) lectotype chosen and hypostome tentatively assigned p. 93 pl. iv fig. 23, *A. (A.) h. henni* p. 98 pl. ii figs. 7-8 text-fig. 2 (lenses in eye), *A. (A.) h. posthuma* subsp. n. with *Astero-pyge* sp. Maillieux 1939 in synonymy p. 99 pl. i fig. 4, pl. ii figs. 9-13, *A. (A.) paeckelmanni* R. & E. R. 1939 holotype

refigured pl. ii fig. 14a, b, text-fig. 3 (lenses), *A. (A. ?) jaschkei* (Roemer 1843) lectotype chosen p. 100 Devonian (Lower) Germany, R. & E. RICHTER *Senckenbergiana* 33 1-3 1952.

Acaste (*Acaste*) *dayia* ? n. sp. R. & E. Richter [nom. nud.] Silurian (Upper) Germany (Ebbe-Sattel) p. 39, BEYER 4.

Acaste cf. *schmidtii* R. Richter p. 338, DAHMER 15.

Acastella see *Acaste*.

Acastoides see *Acaste*.

Acerocare Angelin 1854 referred to *Pelturinae* subfam. n. [quod vide] p. 195, HARRINGTON & LEANZA 26.

Acerocarina Poulsen 1951 referred to *Pelturinae* subfam. n. [quod vide] p. 195, HARRINGTON & LEANZA 26.

Achatella Delo 1935 considered to be only a subgenus of *Phacops* [quod vide] p. 121, REED 69.

Acheilid Stock of Catillicephalinae considered to include *Acheilus* Clark 1924, *Distazeris* Raymond 1937 and *Madarocephalus* Resser 1938 [quod vide] p. 466, SHAW 88.

Acheilus Clark 1924 so accredited rather than to Raymond 1924 on basis of prior publication, type species by monotypy *A. levisensis* C. 1924 (not *A. marcoui* R.), *Theodenisia* Clark 1948 considered synonymous; *A. levisensis* C., *A. marcoui* R. and *A. n. sp.* pp. 467, 468, SHAW 88.

Acheilus latus Rasetti pl. i fig. 6, RASETTI 67.

Acidaspis huangi Sun 1931 made type species of *Omeipsis* gen. n. p. 15, KOBAYASHI J. Fac. Sci. Tokyo Univ. [2] 8 1951.

Acidaspis (*Onchaspis*) cf. *lalage* Wyville Thomson p. 105 pl. v fig. 4, HARPER 25.

Acidaspis minuta ? Barrande [aff. inserted on p. 213] p. 204 pl. vii fig. 15, *A. aff. tricornis* B. p. 204 pl. vii fig. 14, *A. sp.* [compared with *A. leonhardi* B.] p. 206 pl. vii fig. 12, *A. sp.* p. 207 pl. vii fig. 11, CHAUBET 9.

Acidaspis octospinosa Grab., *A. sp.* p. 52, YIN 121.

Acmarrhachis sp. indet. p. 481 pl. lviii figs. 22-24, SHAW 88.

Acrocephalops matthewi sp. n. Cambrian (Middle) Canada (Nova Scotia) p. 100 pl. vi figs. 3-7 [non 8], HUTCHINSON Mem. geol. Surv. Can. No. 263 1952.

Acrohybus argutus Raymond may be synonym of *Blountia* (*Homodictya*) *imitatrix* (R.) p. 474, SHAW 88.

Acrolichas see *Lichas*.

Acrolichas Foerste and *Amphilichas* Raymond considered separate subgenera of *Lichas* [quod vide] p. 118, REED 69.

Actinopeltis insocialis (Barr.) p. 203, CHLUPÁČ 11.

Actinopeltis insocialis (Barr.) p. 430, MAREK 52.

Aeglina see *Cyclopyge*.

Aeglina mirabilis Forbes MS. Salter referred to *Phylacops* [quod vide] lectotype chosen p. 310, WHITTARD 114.

Aeglina mirabilis p. 90, HARPER 25.

Aeglina prisca synophthalma Klouček 1919 conditionally raised to specific rank and referred to *Phylacops* Cooper & Kindle 1936, WHITTARD 114.

Agnostid No. 1 p. 482 pl. lvii figs. 29, 30, SHAW 88.

Agnostida regarded as an order equivalent to *Eodiscida*, *Protoparia* etc. p. 487, MOORE 54.

Agnostidae considered to be linked with conventional trilobites by *Eodiscus* and *Pagetia*, recent classifications considered artificial p. 274, ÖPK 61.

Agnostidae (Corda 1847) so accredited rather than to McCoy 1849 p. 15, HENNINGSMOEN 31.

Agnostus cambrensis Brong. p. 398 pl. [first Cambrian], pl. [second Cambrian], GARCÍA-FUENTE 21.

Agnostus cuyanus sp. n. Cambrian (Middle) Argentina (Mendoza) p. 188 pl. iv fig. 3, RUSCONI Rev. Mus. Hist. nat. Mendoza 2 3 1948.

"*Agnostus*" *girvanensis* Reed p. 89, HARPER 25.

Agnostus innocens Clark 1924 presence in Rockledge Conglomerate unconfirmed and doubted p. 482, SHAW 88.

Agnostus cf. *lentiformis* Ang. p. 683, A. sp. p. 691, NILSSON 60.

Agnostus parilis Hall see *Pseudagnostus josepha* (Hall).

Agnostus rakuroensis Kobayashi pl. i fig. 13, SHIKAMA 89.

Agnostus [sp.] p. 109 pl. vi fig. 5a [where misspelled *Agnotus*], GÓMEZ DE LLARENA 24.

Agraulos ceticephalus Barrande p. 706, MELÉNDEZ & HEVIA 53.

Albertella proveedora sp. n. p. 137 pl. xxiii figs. 1-8 Cambrian (Middle) Mexico (Sonora), A. aff. *A. proveedora* p. 139 pl. xxiii fig. 9, LOCHMAN Smithsonian. misc. Coll. 119 1 1952.

Alceste hisingeri (Barr.) pp. 199, 203, CHLUPÁČ 11.

Alemtejoia Kobayashi 1943 considered a synonym of *Weymouthia* Raymond 1913, RASETTI 65.

Alemtejoia Kobayashi 1943 considered a synonym of *Delgadella* Walcott 1912 p. 174, TEIXEIRA 106.

Alokistocare recorded from Mexico p. 1263, STOYANOW 96.

Alokistocare althea Walcott from Mexico p. 114 pl. xxvii figs. 3-8, *A. modestum* sp. n. p. 116 pl. xxvii figs. 11-16, A. cf. *A. modestum* p. 117 pl. xxvii figs. 9, 10 Cambrian (Middle) Mexico (Sonora), LOCHMAN Smithsonian. misc. Coll. 119 1 1952.

Alokistocarella mexicana sp. n. p. 118 pl. xxvii figs. 1, 2 Cambrian (Middle) Mexico (Sonora), LOCHMAN Smithsonian. misc. Coll. 119 1 1952.

Alsataspidae Turner 1940 replaced by *Selenecemidae* nom. n. [quod vide] p. 4, WHITTINGTON 118.

Alsataspis Turner 1940 considered a subjective synonym of *Seleneceme* Clark 1924 p. 4, WHITTINGTON 118.

Amecephalina-like cranidia may belong to spp. of *Goycoia* p. 15, RUSCONI 81.

Amecephalus ? *mendozanus* Rusc. p. 114, RUSCONI 83.

Amecephalus ? cf. *A. piochensis* (Walcott) from Mexico, species discussed p. 55 pl. xiv figs. 7, 8, STOYANOW 97.

Amphilichas Raymond and *Acrolichas* Foerste considered separate subgenera of *Lichas* [quod vide] p. 118, REED 69.

Amphilichas browni revised assignation for *Lichas* b. Sun 1931, *Bronteus richteri* Sun referred to synonymy p. 21 pl. v figs. 5, 6, KOBAYASHI 40.

Amphion gelasinus Portlock see *Ceraurinus gelasinus*.

Amphitryon radians (Barr.) p. 199, CHLUPÁČ 11.

Amphoton ? *martillensis* [query omitted on pl. expl.] sp. n. p. 94 pl. iii figs. 3, 4 Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Amphoton parallela Endo & Resser 1937 assignment of hypostome questioned p. 890, RASETTI 67.

Ampyx pater Holm 1882 lectotype (cranidium) chosen and figured, sp. redescribed p. 176 pl. v figs. 2, 4b, 7, 12-16, SKJESETH 91.

Ampyx pater Holm ? p. 63, *A. brevicauda* Wiman ? p. 64, TJERNVIK 111.

Ampyx (*Lonchodomas*) *sarsii* Portlock [recte *A. (L.) rostratus* Sars var. Portlock] considered of specific rank, redescribed and affinities discussed, type material refigured p. 93 pl. v figs. 4-6, REED 69.

Ampyx tenellus (Barr.), *A. portlocki* B. p. 8, CHLUPÁČ 12.

Ampyx volborthi Schmidt 1894 see *Lonchodomas volborthi*.

Ampyx sp. pp. 683, 691, NILSSON 60.

Andesaspis Kobayashi 1935 considered a synonym of *Parabolinopsis* Hoek, *A. argentinensis* K. lectotype (cranidium) selected and referred to *P. mariana* H. while pygidium referred to *Pseudokainella lata* (K.) p. 196, HARRINGTON & LEANZA 26.

Andrarina linnarssoni (Brøgger) *bretonensis* subsp. n. Cambrian (Middle) Canada (Nova Scotia) p. 99 pl. v figs. 17, 18, HUTCHINSON Mem. geol. Surv. Can. No. 263 1952.

Angelina Salter 1864 referred to *Triarthrinae* Ulrich p. 194, HARRINGTON & LEANZA 26.

Anisonotella gen. n. (nom. n. for *Anisonotus* Raymond 1920 non *Anisonotus* Milne Edwards 1879) for type *Shumardia glacialis* Billings 1865, placed in *Endymionidae* Raymond 1920 p. 4, WHITTINGTON J. Paleont. 26 1 1952.

Anisonotus Raymond 1920 non Milne Edwards 1879 renamed *Anisonotella* nom. n., WHITTINGTON 118.

Anisonotus obtusus (Moberg & Segerberg) ? p. 64, TJERNVIK 111.

Anoria tontoensis (Walcott) revised identification of two paratypes of *Glossopleura mckeei* Resser p. 136, LOCHMAN 49.

Anoria ? recorded from Mexico p. 1263, STOYANOW 96.

Antagmus buttsi (Resser) from Mexico p. 101 pl. xxi figs. 15-21, *A. solitarius* sp. n. p. 103 pl. xxi figs. 8-11 Cambrian (Lower) Mexico (Sonora), LOCHMAN Smithsonian. misc. Coll. 119 1 1952.

Antatlasia hollardi, *A. bourgini* [nomina nuda—gen. et spp. nondescr.] Cambrian (Lower) Morocco p. 480, HUPÉ 32.

Apatocephalus pecten Wiman p. 56, *A. n. sp.* [undescr.] p. 66, TJERNVIK 111.

Apedopyanus Raymond believed to be a synonym of *Bolaspidella* Resser 1937 p. 478, SHAW 88.

Arellanella caborcana Lochman types refigured p. 144 pl. xxix figs. 23-29, *A. sonora* sp. n. p. 146 pl. xxix figs. 15-19, *A. aff. A. sonora* p. 146 pl. xxix figs. 20-22 Cambrian (Middle) Mexico (Sonora), LOCHMAN Smithsonian. misc. Coll. 119 1 1952.

Arethusina see *Aulacopleura*.

Asaphellus catamarcensis solitariensis subsp. n. p. 5 pl. fig. 1, *A. c. gracilicauda* [spelt *gracilicauda* on pl. expl.] subsp. n. p. 6 pl. fig. 2 Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Asaphellus homfrayi (Salter) including in synonymy var. *macropyga* Grabau & Shimer 1910 p. 101 pl. vi figs. 8-11 pl. vii figs. 1-4, *A. ? planus* Matthew lectotype chosen and paratypes figured p. 102 pl. vii figs. 5, 6, HUTCHINSON 35.

Asaphellus trinodosus sp. n. Ordovician (Tremadoc) China p. 119 pl. i fig. 12, pl. ii figs. 7-10, *A. homfrayi* var. Matthew p. 120 pl. ii figs. 1-4, CHANG Bull. geol. Soc. China 29 1-4 1950.

Asaphidae (two forms) from New South Wales p. 115, STEVENS 95.

Asaphiscidae Raymond 1924 subdivided into Kingstoniinae Kobayashi 1933 and Asaphiscinae K. 1935, *Maryrillia* restored to latter p. 471, SHAW 88.

Asaphiscinae Kobayashi 1935 — Blountidae Lochman 1944 considered synonymous p. 473, SHAW 88.

Asaphus expansus (L.), *A. vicarius* Törnquist p. 634, JAANUSSON & MUTVEI 36.

Asaphus inexcultus Rusc. p. 80, *A.* (?) i. p. 105, *A. ? asperoensis* sp. n. p. 105 pl. ii fig. 4 Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Asaphus cf. *platyurus* Angelin p. 26 pl. iv fig. 9, KOBAYASHI 40.

Asaphus radiatus Salter 1866 restricted by excluding Salter's specimens from Collon, Eire (see *Pseudobasilicus* sp.), lectotype chosen and referred to *Pseudobasilicus* Reed p. 108, HARPER 25.

Asaphus (*Brachyaspis*) *rectifrons* (Portlock) p. 110, *A.* (*Homotelus*) *arcuatus* (Portlock) considered distinct but known only from pygidia p. 110 pl. v fig. 11, *A.* (*H. ?*) *scutalis* Salter p. 113, *Asaphus* (*Isotelus*) sp. (compare *Isotelus megistos* Locke) p. 113, REED 69.

Asaphus ? salagastensis Rusconi 1951 referred to *Orometopus* and illustrated p. 54 pl. ii fig. 27 text-figs. 13, 14, RUSCONI 82.

Asaphus sp. p. 691, NILSSON 60.

Asioptychaspis cfr. *ceto* (Walcott) and *A. calyce* (W.) p. 78, KOBAYASHI 41.

Asteropyge (*Comura*) R. & E. Richter 1943 subgenus so dated p. 81, *A.* (*C.*) *cometa cometa* R. & E. R. 1943 holotype refigured p. 83 pl. iii figs. 15, 16, pl. i fig. 6 (hypostome tentatively assigned), *A.* (*C.*) *c. joaquinii* subsp. n. Devonian (Lower) Spain p. 84 pl. iii fig. 17, *A.* (*C.*) *defensor* sp. n. Devonian (Lower) Germany p. 84 pl. iii figs. 18, 19, *A. ?* (*Philonyx*) subgen. n. for type *A. ?* (*P.*) *philonyx* sp. n. Devonian (Middle) Germany p. 85 pl. i fig. 5a-f text-fig. 1, *A. ?* (*P.*) *p. ?* p. 88, *A. ?* (*P.*) n. sp. a [aff. *philonyx*] Devonian (Lower) Germany p. 88, *A.* (*Kayserops* ?) n. sp. b [aff. *diadema* (Richter 1920)] for *Cryphaeus* cf. *laciniatus* Walther 1903 Devonian (Lower) Germany p. 80, R. & E. RICHTER Senckenbergiana 33 1-3 1952.

Asteropyge (*Rhenops*) *index* R. & E. Richter, *A.* (*Kayserops*) n. sp. R. & E. R. [undescri.] p. 338, DAHMER 15.

Athabaskia Raymond 1928 considered distinct from *Clavaspidella* Poulsen 1927 and differences listed, *A. glacialis* R. probably a synonym of *A. ostheimeri* R., *A. bela* (Walcott) holotype refigured p. 128 pl. xxix figs. 1-10, *A. minor* (Resser) p. 130 pl. xxxi figs. 1-3 from Mexico, LOCHMAN 49.

Aulacopleura Corda 1847 considered to have priority over *Arethusina* Barande 1852 p. 191, *A. konincki* B. p. 192, *A. k. occitanica* var. n. p. 192 pl. vii figs. 4, 6, *A. spp.* pp. 193, 195 pl. vii fig. 7 text-figs. 4, 5 (2 & 3), *A.* (*Paraaulacopleura*) subgen. n. for type *A.* (*P.*) *roquemauillerensis* sp. n. p. 196 pl. vii fig. 1, *A.* (*P.*) sp. p. 199 pl. vii figs. 2, 3, 5, 10 text-fig. 5 (1) Silurian (Wenlock) France (Hérault), CHAUBET Trav. Lab. Géol. Univ. Montpellier No. 1 1937.

Bailiaspis sp. p. 96 pl. v fig. 11, HUTCHINSON 35.

Bailiella emarginata (Linnarsson) recorded for the first time from Norway (Ringsaker) p. 26, HENNINGSMOEN 31.

Basidechenella see *Dechenella*.

Basilicus deltacauda Kobayashi pl. v fig. 2, *B. yokusensis* K. pl. v fig. 3, SHIKAMA 89.

Basilicella kawasakii Kobayashi pl. v fig. 4, SHIKAMA 89.

Basilicella yunnanensis (Reed) p. 33 pl. iv figs. 7, 8 (restoration), KOBAYASHI 40.

Bathynotus holopygus (Hall) pl. i fig. 5, RASETTI 67.

Bathyriscus sp. p. 76, LAVERDIÈRE 46.

Bathyrurus recorded, CHENOWETH 10.

Bathyrurus jenchuangensis sp. n. Ordovician (Tremadoc) China p. 121 pl. ii figs. 5, 6, CHANG Bull. geol. Soc. China 29 1-4 1950.

Beltella Lake 1919 referred to *Pelturinae* subfam. n. [quod vide] p. 195, HARRINGTON & LEANZA 26.

Beltella ? sp. p. 83 pl. iii fig. 16, HUTCHINSON 35.

Berkeia typica Resser p. 181 pl. xxix fig. 1, BELL, FENIAK & KURTZ 2.

Bigotinops dangeardi [nom. nud.—gen. et sp. nondescr.] Cambrian (Lower) Morocco p. 480, HUPÉ 32.

Birmanites birmanicus (Reed) p. 50 text-fig. 1, KOBAYASHI 40.

Blackwelderia sinensis (Bergeron) pl. ii fig. 5, SHIKAMA 89.

Blackwelderia ? [sp.] p. 109, GÓMEZ DE LLARENA 24.

Blountia Walcott 1916—*Homodictya* Raymond 1937 considered a subgenus, *B. (H.) imitatrix* (Raymond) of which *Kaninia* ? *platys* R. and *Coleopachys strix* R. *partim* considered synonyms p. 473 pl. lvii figs. 25–28, SHAW 88.

Blountina Lochman 1944 considered a junior subjective synonym of *Protillaenus* Raymond 1937 p. 474, SHAW 88.

Boeckia Brögger 1882 referred to *Pelturinae* subfam. n. [quod vide] p. 195, HARRINGTON & LEANZA 26.

Bohemilla Barrande 1872 considered not to belong to the Trilobita p. 320, *B. stupenda* Barrande 1872 lectotype chosen and figured p. 317 pl. xxxiii figs. 11, 12, other syntype material of *B. s.* separated as Gen. indet. p. 319 pl. xxxiii figs. 13–16, *B. scotica* Reed 1914 accepted but *B. ? denticulata* Linnarsson 1875 rejected p. 319, WHITTARD 114.

Bolaspidella Resser 1937 of which *Hysteropleura* Raymond 1937 and *Apedopyanus* Raymond 1937 believed to be synonyms, *B. macgerriglei* (Raymond) 1937 p. 478 pl. lvii fig. 44, SHAW 88.

Bondonella typica [nom. nud.—gen. et sp. nondescr.] Cambrian (Lower) Morocco p. 481, HUPÉ 32.

Bonnia sonora sp. n. p. 99 pl. xxi figs. 1–7 Cambrian (Lower) Mexico (Sonora), LOCHMAN Smithsonian. misc. Coll. 119 1 1952.

Bonnia tokunagai Saito pl. ii fig. 12, SHIKAMA 89.

Borthaspis Stubblefield 1951 a junior synonym of *Psilocephalinella* Kobayashi 1951 since both proposed to replace *Psilocephalina* Stubblefield 1951 non Hsü 1943 p. 155 footnote, WHITTARD 115.

Brachyaspis see *Asaphus*.

Brevidiscus Kobayashi 1943 considered a synonym of *Calodiscus* Howell 1935 as the types *B. lunulatus* K. and *Agnostus lobatus* Hall 1847 considered synonymous, *B. lunulatus* K. and *B. troyensis* K. stated to be objective

synonyms as both based on Walcott 1886 pl. 16 fig. 1a which is considered a typical *Calodiscus lobatus* (Hall), Kobayashi's subsequent 1944 designation of Lake 1907 pl. 3 fig. 5 as holotype of *B. lunulatus* not accepted and this specimen referred to *Calodiscus lakei* sp. n. [quod vide] p. 440, RASETTI 65.

Briscoia schucherti Ulrich & Resser 1930 and *B. sinclairensis* Walcott p. 141, *B. sp. nov.* [undescri.] p. 149, RAASCH 64.

Briscoia soleri sp. n. p. 118 pl. vi fig. 2 Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1–4 1952.

Brongniartella bisulcata (Salter) p. 8, TEMPLE 107.

Bronteopsis ? *ellipsoidalis* Lisogor, BOROVNIKOV 5.

Bronteus cf. *partschi* Barr., *B. sp. p.* 52, YIN 121.

Bronteus richteri Sun referred to synonymy of *Amphilichas browni* (Sun) p. 21, KOBAYASHI 40.

Bronteus n. sp. p. 312 text-figs. 1–2 Devonian (Lower) Germany, LEHMANN 48.

Bumastus sp. p. 123 pl. ii figs. 11, 12, CHANG 8.

Bumatus [error pro *Bumastus*] *shihtzu-puensis* p. 52, KOBAYASHI 40.

Bynnymia leptogaster Raymond 1937 p. 472 pl. lvii figs. 12, 13, SHAW 88.

Caborcella arrojensis Lochman types refigured p. 147 pl. xxix figs. 11–14, LOCHMAN 49.

Callavia bicensis and *C. burri* (line drawings) text-fig. 1k, n, TASCH 103.

Callavia choffati (Delgado) of which *Olenellus* ? *macphersoni* D. and Delgado 1904 pl. 4 fig. 53 are considered synonyms p. 170 pl. i fig. 1, pl. ii figs. 1–3, pl. iii figs. 1–7, pl. iv figs. 1–6, pl. xii fig. 1, TEIXEIRA 106.

Callavia termieri sp. n. Cambrian (Lower) Morocco p. 71 pl. i figs. 1–6, pl. ii figs. 1, 2, cranium stated to be identical with that of *Saukianda andalousiae* [recte *andalusiae*] Richter [R. & E.] but pygidium different from that attributed to latter p. 74, NELTNER & POCTEY Notes Serv. Min. Maroc No. 74 2 1949.

Calliops see *Isalaur*.

Calliops Delo 1935 considered a subgenus of *Phacops* [quod vide] allied to *Pterygomotopus* p. 122, REED 69.

Calliops recorded, CHENOWETH 10.

Calodiscus Howell 1935 discussed, *Brevidiscus* Kobayashi 1943 [quod vide] considered synonymous p. 440, *C. lobatus* (Hall) 1847 syntypes figured pl. li figs. 1-11, *C. schucherti* (Matthew) 1896 syntypes figured pl. li figs. 22-27, *C. meeki* (Ford) 1876 holotype cephalon figured pl. li figs. 19-21, *C. agnostoides* (Kobayashi) 1943 holotype figured, considered that *C. a.* may be immature stage of *C. meeki* but provisionally kept distinct p. 442 pl. li figs. 12-16, *C. cf. agnostoides* (K.) p. 443 pl. li figs. 17, 18, *C. helena* (Walcott) 1889 syntypes figured pl. liv figs. 18-22, *C. walcotti* sp. n. Cambrian (Lower) U.S.A. (New York) p. 443 pl. liv fig. 17, *C. lakei* sp. n. (nom. n. for *Microdiscus lobatus* of Lake 1907 pl. 3 fig. 5) Cambrian (Lower) Britain (Shropshire) p. 440, *C. foveolatus* Howell tentatively referred to *Eodiscus* p. 449, RASETTI J. Paleont. 26 3 1952.

Calvinella spiniger (Hall) of which the following Ulrich & Resser 1933 spp. & vars. are considered synonyms *C. s. altimuralis*, *C. s. communis* et mut., *C. s. postlevata*, *C. clivula*, *C. walcotti norwalkensis* and *C. wisconsinensis junior* p. 145, *C. pustulosa* U. & R. with synonym *C. p. vernonensis* p. 146, *C. walcotti* U. & R. with synonyms *C. v. planulata*, *C. lata* and *C. notata* p. 146, *C. wisconsinensis* U. & R. p. 146; *C. sparsinodonta* U. & R. referred to cf. *C. spiniger*; *C. sp. nov.* [undescri.] p. 149, RAASCH 64.

Calymene asperula Novák MS p. 430, MAREK 52.

Calymene cf. asperula Novák MS p. 8, CHLUPÁČ 12.

Calymene (Calymene) beyeri (?) n. sp. R. & E. Richter [nom. nud.] Silurian (Upper) Germany (Ebbe-Sattel) p. 39, BEYER 4.

Calymene (Flexicalymene) brevicapitata (Portlock) suggested that *Pharostoma rarum* Cooper & Kindle may be not far removed p. 120, REED 69.

Calymene (Diacalymene) drummuckensis Reed revised identification of *Calymene blumenbachii* Portlock 1843

(non Brongniart) and probably of *Calymene pulchella* P. 1843 (non Dalman) p. 120, REED 69.

Calymene paronai Pellizzari 1913 referred to *Colpocoryphe* p. 43, *C. sp.* Kayser 1883 to *Synhomalonotus kayseri* sp. n. p. 41, *C. tingi* Sun 1931 *partim* to *Calymenesun* gen. n. p. 44, *C. unicornis* Reed to *Reedocalymene* gen. n. p. 45, *C. ? sp. undet.* Endo 1932 to *Flexicalymene conica* sp. n. p. 45, *C. pulchra* Sun 1932 to *Pharostoma parapulchra* sp. n. p. 46, KOBAYASHI J. Fac. Sci. Tokyo Univ. [2] 8 1951.

Calymene sp. p. 691, NILSSON 60.

Calymenesun gen. n. [Calymenidae] for type *Calymene tingi* Sun 1931 *partim* Ordovician China p. 44 pl. iv fig. 11 (restoration of cephalon), KOBAYASHI J. Fac. Sci. Tokyo Univ. [2] 8 1951.

Calymmene sp. p. 52, YIN 121.

Camaraspis convexa (Whitfield) p. 181 pl. xxix figs. 2 a-f, BELL, FENIAK & KURTZ 2.

Camaraspis onyx Richter [R. & E.] from Lower Cambrian of Morocco p. 77, NELTNER & POCTEY 58.

Caphyra radians (Barr.) p. 8, CHLUPÁČ 12.

Catillicephala Raymond 1937 error pro *Catillicephala* Raymond 1938 Z.R. 85 for 1948 11 1950 p. 13.

Catillicephala Raymond 1938 type selected as *Ucebia lata* R. 1937 [quod vide], *C. lata* (R.) in synonymy with which are placed *C. ovoides* (R.) and *C. rotunda* (Rasetti) 1946 redescribed and genal spines stated to be absent p. 463 pl. lvii figs. 1-5, *C. fowleri* sp. n. Cambrian (Upper) U.S.A. (Vermont) p. 464 pl. lvii figs. 6, 7, SHAW J. Paleont. 26 3 1952.

Catillicephala impressa (Rasetti) pl. i fig. 7, RASETTI 67.

Catillicephalinae Raymond 1938 emend. considered a subfamily of *Corynexochidae* Angelin 1851 p. 461, divided into *Catillicephalid* and *Acheilid* Stocks p. 462, SHAW 88.

Centroleura belli sp. n. Cambrian (Middle) Canada (Quebec) p. 278 pl. i, HUTCHINSON Amer. J. Sci. 250 4 1952.

Cephalocoelia see *Catillicephala*.

Cephalocoelia ovoides Raymond 1937 considered a synchronous synonym of *Ucebia lata* R. 1937 [quod vide] which is preferred p. 462, *C. rotunda* Rasetti 1946 also considered a synonym p. 463, SHAW 88.

Ceratarges see *Lichas*.

Ceratevenkaspiis gen. n. [Dalmanitidae (Monorakeinae)] for type *C. armata* sp. n. p. 404 fig. 9 Ordovician Russia, KRAMARENKO C.R. Acad. Sci. U.R.S.S. NS 86 2 1952.

Ceratocephala Warder 1838 p. 309, *C. verneuilli* (Barrande) text-figs. 1b, 2b, *C. vesiculosa* (Beyrich) text-fig. 2b, ERBEN 17.

Ceratocephala verneuilli (Barrande) p. 151, PŘIBYL & ERBEN 63.

Ceratocephala vesiculosa (Beyrich) [non Erben 1950 (= *Ceratonurus selcanus*)] p. 302 pl. xx fig. 10 text-figs. 43b & b₁, 50, *C. sp.* p. 304 text-fig. 51, ERBEN 16.

Ceratocephalidae R. & E. Richter 1925 emend. Prantl & Přibyl 1949 classified into Ceratocephalinae, Miraspininae and Dicranurinae, with *Ceratonurus*, *Proceratocephala* and *Drumuckaspis* [quae vide] incertae subfamiliae p. 305, ERBEN 17.

Ceratocephalinae (R. & E. Richter 1925) emend. Prantl & Přibyl 1949 considered to include *Ceratocephala* Warder 1838 and (provisionally) *Whittingtonia* P. & P. 1949; *Proceratocephala* P. & P. 1949 excluded p. 309, ERBEN 17.

Ceratonurus Prantl & Přibyl 1949 excluded from Dicranurinae and considered Ceratocephalidae incertae subfamiliae p. 316, ERBEN 17.

Ceratonurus selcanus (A. Roemer) holotype refigured p. 308 pl. xx figs. 8-9 text-figs. 53a-b, ERBEN 16.

Ceratopyge forficula (Sars 1835) hypostome described for first time, Bregger's record of *C. f.* above zone 3ba not confirmed p. 175 pl. iv figs. 10, 11, 14, 15, SKJESETH 91.

Ceratopygidae Raymond considered to include *Ceratopyge* Corda, *Proceratopyge* Wallerius, *Hysterolenus* Moberg, *Kogenium* Kobayashi, *Diceratopyge* Troedsson, *Lopmorites* T., *Prionopyge* Harrington & Leanza and *Dichelepyge* gen. n., diagnosis of family must be

modified to accommodate the latter, Troedsson's 1937 subdivision into Ceratopyginae and Hysteroleninae considered artificial p. 201, HARRINGTON & LEANZA 26.

Ceraurinus gelasinus (Portlock) *partim* cephalon restricted to Portlock's 1843 pl. III fig. 4a; pl. III fig. 4b and probably Salter's 1864 pl. 5 fig. 6 being referred to *C. cf. icarus* (Billings) pp. 120, 121, REED 69.

Ceraurus from New South Wales p. 117, STEVENS 95.

Changia Sun 1924 considered distinct from *Quadratocephalus* S. 1924 p. 77, KOBAYASHI 41.

Chariocephalus whitfieldi Hall p. 188 pl. xxxvii figs. 4a-e, BELL, FENIAK & KURTZ 2.

Cheiruroides priminenes [recte *primigenius*] (Saito) of which *C. orientalis* Kobayashi is considered a synonym stated to have up to fourteen thoracic segments p. 138 pl. iii figs. 10-13, KOBAYASHI & KATO 43.

Cheirus lunshanensis Grab. p. 52, YIN 121.

Cheirus (*Crotalocephalus*) *sternbergi* (Boeck) *sternbergi* p. 342 pl. xxiv figs. 5-9, *C. (C.) pauper* (Barrande) *brevispinosus* subsp. n. for *C. (C.) p. ?* of Kegel 1931 *partim* p. 343 pl. xxiv figs. 3-4 text-fig. 64 Devonian (Lower) Germany (Harz), *C. (C.) gibbus* Beyrich pl. xxiv fig. 2, *C. (C.) globifrons* (Hawle & Corda) pl. xxiv fig. 1, ERBEN Neues Jb. Geol. Paläont. Abh. 94 2-3 1952.

Cheirus sp. p. 683, NILSSON 60.

Chilometopus gen. n. [Trinucleidae] p. 89, *C. asperoensis* sp. n. p. 89 pl. i figs. 9-13, pl. iii fig. 8 *pars*, pl. iv fig. 1 *pars*, *C. parabolicus* sp. n. p. 91 pl. iii figs. 5, 8 *pars*, 22, 23, pl. iv figs. 1 *pars*, 2, text-fig. 4 (reconstruction) Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Chilonorria gen. n. [Dolichometopidae] p. 93, *C. perlottii* sp. n. p. 93 pl. iii figs. 6, 7, *C. lasherensis* [spelt *lasherense* on pl. expl.] sp. n. p. 109 pl. ii fig. 3 Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Choubertella spinosa, *C. lata*, *C. crassiolucata* [nomina nuda—gen. et spp. nondescr.] Cambrian (Lower) Morocco p. 480, HUPÉ 32.

Chuangia taihakuensis Kobayashi pl. ii figs. 8, 9, 10, SHIKAMA 89.

Clavaspidella Poulsen 1927 considered distinct from *Athabaskia* Raymond 1928 [quod vide] but all Cordilleran spp. previously assigned to *C.* transferred to *A.* p. 128, LOCHMAN 49.

Clavaspidella asperoensis sp. n. p. 108 pl. ii fig. 2 Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Cliffia lataegenae (Wilson) p. 182 pl. xxix fig. 6, BELL, FENIAK & KURTZ 2.

Cobboldia Lermontova 1940 declared a junior homonym, renamed *Neocobboldia* nom. n. [quod vide] p. 438, RASETTI 65.

Cobboldia pulchra [nom. nud.—sp. nondescr.] Cambrian (Lower) Morocco p. 481, HUPÉ 32.

Coignouina see *Otarion*.

Coleopachys Raymond 1937 considered a synonym of *Meteoraspis* Resser 1935, *C. striz* R. 1937 partim (pl. 3 fig. 14) and *C. pisum* R. placed in synonymy with *Greylockia minuta* Raymond which is referred to *Meteoraspis* [quod vide] p. 475, *C. striz* R. 1937 partim (pl. 3 fig. 15) referred to *Blountia* (*Homodictya*) *imitatrix* (R.) p. 473, moulds of holotypes of *C. striz* and *C. pisum* figured pl. lvii figs. 8, 10, *C. striz* partim referred to *Coosia* ? sp. paratypes [sic] measured and figured pl. lvii figs. 35, 36, SHAW 88.

Collyrolenus staminops [nom. nud.—gen. et sp. nondescr.] Cambrian (Lower) Morocco p. 481, HUPÉ 32.

Colpocoryphe declinata (Corda) p. 8, CHLUPÁČ 12.

Colpocoryphe paronai revised assignment for *Calymene* p. Pellizzari 1913 p. 43 pl. v figs. 7a-c (restorations), KOBAYASHI J. Fac. Sci. Tokyo Univ. [2] 8 1951.

Comanchia Frederickson 1950 discussed, *C. prior* sp. n. Cambrian (Upper) U.S.A. (Minnesota) p. 182 pl. xxix figs. 4a, b, KURTZ in BELL, FENIAK & KURTZ J. Paleont. 26 2 1952.

Comura see *Asteropyge*.

Conaspis parvafrons sp. n. p. 185 pl. xxxi figs. 7a, b, *C. tumidus* sp. n. with *C. perseus* Hall 1863 partim (pl. 7 figs. 18, 19, 23) in synonymy p. 185 pl. xxxi fig. 5 Cambrian (Upper) U.S.A. (Minnesota), KURTZ in BELL, FENIAK & KURTZ J. Paleont. 26 2 1952.

Condylomyge regia (Sjögren 1872) p. 229, WAERN 112.

Conocephalites (*Conocoryphe*-*Sdenopleura* [error pro *Solenopleura*]) *ribeiroi* Barr. p. 398 pl. [first Cambrian] 3 figs., GARCÍA-FUENTE 21.

Conocephalites [sp.] pp. 108, 109 pl. vi figs. 3a, 6a, GÓMEZ DE LLARENA 24.

Conocoryphe ? *aspera* Angelin (nom. nud.) p. 622, REGNÉLL 70.

Conocoryphe lantenoisi Mansuy pl. i fig. 12, SHIKAMA 89.

Conocoryphe sulzeri Schlot., *C. ribeiro* Vern. & Barr. p. 129 figs. 6, 7, ALMELA & REVILLA 1.

Conocoryphe sulzeri Schlot. pl. iii (upper fig.), *C. heberti* Mun.-Chalm., *C. coronata* Barrande p. 706, MELÉNDEZ & HEVIA 53.

Conocoryphe sulzeri sulzeri (Schloth.) p. 297 pl. i fig. 6, HAVLÍČEK & ŠNAJDR 30.

Coosella ? *minuta* see *Meteoraspis* ? *minuta*.

Coosia ? sp. including *Coleopachys striz* Raymond 1937 partim p. 478 pl. lvii figs. 35-37 [see also *Pygidium* No. 4], SHAW 88.

Cornuproetus see *Proetus*.

Coronocephalus see *Encrinurus*.

Coronocephalus rex Grab. pp. 52, 54, YIN 121.

Cotalagnostus barrandei (Salter) p. 69 pl. i fig. 4, HUTCHINSON 35.

Cotalagnostus canotensis sp. n. p. 9 pl. fig. 12 Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Croizana bipunctata (Shumard) p. 185 pl. xxxii figs. 1a, b, BELL, FENIAK & KURTZ 2.

Cromus sp. nov. [undescr.] aff. *C. beaumonti* Barr. p. 52, YIN 121.

Crotalocephalus see *Cheirurus* (*Crotalocephalus*).

Crotalurus n. sp. [undescri.] p. 61, TJERNVIK 111.

Cryphina D. P. Oehlert 1889 diagnosis given and affinities discussed p. 638, *C. andegavensis* O. 1889 considered not to be the pygidium of *Probolium galloisi* or *Dechenella* (Basid.) incerta O. and associated cephalon described p. 637 pl. xxii fig. 3 text-figs. 1Ba, b, 1C [? (cephalon)], PILLET 62.

Cryptolithus see also *Trinucleus*.

Cryptolithus Green date of publication discussed p. 292, C. cf. *C. tessellatus* var. *quadrilineus* Whittington 1941 p. 296 text-fig. 4, STÄUBLE 94.

Cryptolithus kosoviensis sp. n. Ordovician (Upper) Bohemia p. 434 pl. i figs. 1, 2 pl. ii figs. 1, 2, MAREK Sborn. geol. Ust. čsl. 19 (Pal.) 1952.

Cryptolithus multiseriatus Endo p. 47, *C. welleri* Endo referred to *Trinucleus* p. 47 to *Edgellia* p. 73, KOBAYASHI 40.

Cryptolithus ornatus (Stbg.) p. 300, HAVLÍČEK & ŠNAJDR 30.

Cryptolithus ornatus (Stbg.), *C. ultim* (Barr.) p. 8, CHLUPÁČ 12.

Cryptolithus tessellatus [sic] p. 524, *C. quadrillineus* [sic] Whittington p. 525, CHENOWETH 10.

Cryptolithus (*Onnia*) *ultimus* (Barr.) pp. 199, 203, CHLUPÁČ 11.

Cryptolithus (*Onnia*) *ultimus* (Barr.) considered specifically distinct from *C. (O.) ornatus* (Sternb.) p. 435, MAREK 52.

Ctenocephalus coronatus Barr. p. 129 figs. 8, 9, ALMELA & REVILLA 1.

Ctenopyge pecten (Salter) p. 86 pl. iv figs. 7, 8, *C. bisulcata* (Phillips) p. 87 pl. iv figs. 9, 10, *C. flagellifera* (Angelin) p. 87 pl. iv fig. 11, HUTCHINSON 35.

Culipagnostus gen. n. [Hastagnostidae], *C. [? Triplagnostus* on pl. expl.] *chipiquensis* sp. n. p. 11 pl. fig. 11 Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Cummingella Reed 1942 discussed, type by original designation *Entomolithus Onicites (derbyensis)* Martin 1809 [quod vide] which is considered congeneric with *Phillipsia mucronata* McCoy 1844 type species of *Weberides* R. 1942 which has page-and-line precedence over *C.*; proposed to ICZN that

original designation of type of *C.* be set aside as based on a misidentified species and that *Phillipsia jonesi* Portlock 1843 (= *E. O. (d.)* Reed 1942 et Woodward 1883 non Martin 1809) be designated as type of *C.* and latter genus placed on Official List of Generic Names, STUBBLEFIELD 98.

Cybele cf. *revaliensis* Schmidt p. 89, HARPER 25.

Cybele (*Cybelella*) cf. *rex* (Nieszkowski) p. 106 pl. v fig. 1, HARPER 25.

Cybele (*Cybeloides*) *rugosa* Portlock p. 119, REED 69.

Cybele tuberculata Angelin (nom. nud.) p. 622, REGNÉLL 70.

Cybele sp. p. 60, TJERNVIK 111.

Cyclograthus rotundifrons Matthew complete integument described p. 94 pl. v figs. 7-9, HUTCHINSON 35.

Cyclopyge bumasti (Reed) p. 93, *C. cf. rediviva* (Barrande) pp. 91, 93, HARPER 25.

Cyclopyge rediviva (Barr.), *C. speciosa* (Cda), *C. sp.* p. 199, CHLUPÁČ 11.

Cyclopyge rediviva (Barr.), *C. speciosa* (Corda) p. 8, CHLUPÁČ 12.

Cyclopyge speciosa (Hawle & Corda), *C. princeps* (Barr.) p. 203, SVOBODA & PRANTL 102.

Cyclopyge speciosa kloučeki R. & E. Richter 1937 raised to specific rank and referred to *Phylacops* Cooper & Kindle 1936 p. 310, WHITTARD 114.

Cyclopyge (*Phylacops*) cf. *vigilans* Cooper & Kindle revised identification of *Aeglina rediviva* Smith 1907 (non Barrande) *partim* (pl. 8 fig. 16) p. 116, *C. (Symphysops)* cf. *subarmata* Reed revised identification of *Aeglina rediviva* Smith 1907 (non Barrande) *partim* (pl. 8 fig. 15) p. 117, *C. cf. gigantea* (Barrande) revised identification of *Aeglina rediviva* Smith 1907 (non Barrande) *partim* (pl. 8 fig. 14) p. 117, REED 69.

Cyclopygid eye p. 89, HARPER 25.

Cyclopygid pygidium A p. 314 pl. xxxiii fig. 6, cyclopygid pygidium B p. 315 pl. xxxiii fig. 7, cyclopygid pygidium C p. 315 pl. xxxiii figs. 8, 9, cyclopygid pygidium D p. 316 pl. xxxiii fig. 10, Ordovician (Upper) Britain (Scotland), WHITTARD 114.

Cyclopygidae Raymond 1925 see *Ellipsotaphrus* and *Psilacella* genn. n., *Aeglina*, *Phylacops*.

Cyphaspidus n. sp. [ex aff. *cerberus* (Barrande)] p. 251 pl. xix fig. 17 text-fig. 31, *C. truncatus* (A. Roem.) holotype refigured text-figs. 32a-c, *C. cerberus* Barr. & *C. c.* Holzapfel non Barr. characters compared p. 256, ERBEN 16.

Cyrtometopus cf. *clavifrons* (Dalman 1826) p. 173 pl. iv figs. 3, 4, 6, SKJESETH 91.

Cyrtometopus sp. p. 66, TJERNVIK 111.

Dactylocephalus Hsü discussed p. 71, *D. dactyloides* Hsü text-fig. 4, KOBAYASHI 40.

Daguinaspis ambrogii Hupé & Dabadie [error pro H. & Abadie] (nom. nud. 1950 sp. nondescr.] p. 475 text-fig. 3, HUPÉ 33.

Dalmanites see also *Phacops* (*Dalmanites*?).

Dalmanites cf. *weaveri* (Salter) var. *tenuimucronata* Whittard revised identification of *Phacops* (*D.*) *mucronatus* Marr & Nicholson 1888 non Brongniart p. 11, TEMPLE 107.

Dalmanitidae (Monorakeinae) subfam. n. see Monorakeinae.

Dalmanitina see also *Phacops* (*Dalmanitina*).

Dalmanitina mucronata (Brongniart) discussed and variation analysed, Wahlenberg's original material stated [erroneously] to be lost, revised description given and following included in synonymy—*Phacops eucentra* Angelin 1851 *partim* (pygidium), *P. appendiculatus* Salter 1864, *P. pulchellus* Linnaeus 1866 (non Foerste 1887) and *Dalmanites* n. sp. Thorslund 1935 p. 10 pl. i figs. 1-8, pl. ii figs. 1, 3, 4, 6, pl. iii figs. 1-4, pl. iv figs. 1, 3, 7; *D. m.* (B.) var. *brevispina* var. n. including *P. m.* Marr 1913 (p. 11) Silurian (Lower) England (Yorkshire and Westmorland) p. 14 pl. ii fig. 2; *D. olini* sp. n. for *P. eucentra* Olin 1906 non Angelin 1851 including in synonymy *P. a.* Elles & Wood 1896 *partim*, *P. apiculatus* Marr 1916 non Salter and *P. mucronatus* of following—Fearnside et al. 1907, Elles 1909 *partim*, Marr 1913 (p. 5) *partim*, Marr 1916 *partim* & Pugh 1929 *partim* Ordovician (Upper) Sweden (Scania)

and Britain p. 20 pl. iii figs. 5-8, pl. iv figs. 2, 4, 5, 6, relations between *D. o.* and *D. m.* discussed p. 26, *D. ?* sp. revised identification of *P. m. ?* Salter 1864 *partim* (glabella) expl. pl. ii fig. 5, TEMPLE Lunds Univ. Årsskr. NF [2] 48 1 1952.

Dalmanitina olini Temple ontogeny described pl. ix figs. 1-6 pl. x figs. 1-6 (fig. 4 probably *D. olini* on plate explanation) text-fig. 1 (diagrammatic), *D. mucronata* (Brongniart) undisputed young forms not found but ontogeny may be similar p. 252, TEMPLE 108.

Dalmanitina socialis socialis (Barr.) p. 204, SVOBODA & PRANTL 102.

Dalmanitina socialis grandis (Barr.) pp. 199, 203, CHLUPÁČ 11.

Dalmanitina socialis grandis (Barr.), *D. sp.* p. 8, CHLUPÁČ 12.

Dalmanitina socialis grandis (Barr.), *D. morrisiana* (B.) p. 430, MAREK 52.

Dalmanitina socialis proeva (Emm.) p. 299 pl. ii figs. 1-5, HAVLÍČEK & ŠNAJDR 30.

Dalmanitina ? tellecheai Rusconi [unillustr. 1951] p. 57 pl. ii fig. 29 text-figs. 16, 17, RUSCONI 82.

Damesella octaspina Kobayashi pl. ii fig. 13, SHIKAMA 89.

Dawsonia Hartt in Dawson 1868 considered as valid p. 437, *D. dawsoni* (Hartt) 1868 with *D. spinifera* Kobayashi 1943 as synonym p. 449 pl. liv figs. 1-9, *D. canadensis* K. 1944 considered synonym of *Eodiscus scanicus* [quod vide] p. 448, RASETTI 65.

Deadwoodia duris (Walcott) p. 183 pl. xxix figs. 3a, b, BELL, FENIAK & KURTZ 2.

Dechenella (*Basidechenella*) *incerta* D. P. Oehlert 1889 considered from new collections that pygidium is distinct from *Cryphina andegavensis* O. 1889 [quod vide] p. 633 pl. xxii figs. 1a-d text-figs. 1Aa, Bc, *D. (B.) rogeri* sp. n. Devonian (Lower) France (Armorican massif) p. 636 pl. xxii figs. 2a, b text-fig. 1Ab, PILLET Bull. Soc. géol. Fr. (6) 1 8 1952.

Delgadella Walcott 1912 [*Eodiscida* *Delgadellidae*] (for type *Lingulepis lusitanica* Delgado 1904) of which *Delgadoia* Vogdes 1917, *Delgadodiscus* Kobayashi 1935 and *Alemtejoia* K. 1943

are considered synonyms p. 174, *D. souzai souzai* (Delgado) with *Microdiscus woodwardi* D., *Lingulepis lusitanica* D. and tentatively *Eodiscus* (*Weymouthia*) *caudatus* R. & E. Richter 1941 non D. 1904 as synonyms p. 175 pl. xiii figs. 1-4, pl. xiv figs. 3-13, 20-27, pl. xv fig. 1, *D. souzai caudata* (D.) with *Microdiscus sub-caudatus* D. & M. wenceslasi D. as synonyms p. 176 pl. xiii figs. 5-7, pl. xiv figs. 1, 2, 17-19, pl. xv figs. 2-10, pl. xvi figs. 1-4, *D. souzai* [s.l.] pl. xiv figs. 14-16, pl. xv figs. 11, 12, pl. xvi figs. 5, 6, TEIXEIRA 106.

Delgadellidae fam. n. [Eodiscida] for *Delgadella* Walcott 1912 p. 174, TEIXEIRA Bol. Soc. geol. Portug. 10 1-3 1952.

Delgadodiscus Kobayashi 1935 considered a synonym of *Weymouthia* Raymond 1913, RASETTI 65.

Delgadodiscus Kobayashi 1935 considered a synonym of *Delgadella* Walcott 1912 p. 174, TEIXEIRA 106.

Delgadoia Vogdes 1917 considered a synonym of *Weymouthia* Raymond 1913, RASETTI 65.

Delgadoia Vogdes 1917 considered a synonym of *Delgadella* Walcott 1912 p. 174, TEIXEIRA 106.

Deltadiscus Kobayashi 1943 considered a synonym of *Eodiscus* Hartt 1884 as the types *Microdiscus punctatus* var. *precursor* Matthew 1886 and *Microdiscus scanicus* Linnarsson 1883 considered synonymous, *D. canadensis* K. 1944 considered subjective synonym of *Eodiscus scanicus* (L.) p. 448, RASETTI 65.

Denckmannia limaria Perna and (probably) *D. revertens* P. referred to *Phacopidella* (*Nephronomma*) subgen. n. p. 334, ERBEN 16.

Denckmannites see *Phacopidella*.

Densonella gen. n. [Menomoniinae] (nom. n. for *Millardia* Walcott 1916 non *Millardia* Thomas 1911) for type *Millardia semele* Walcott 1916 p. 477, SHAW J. Paleont. 26 3 1952.

Despujolsia gen. n. [Olenidae] for type *D. rochi* sp. n. Cambrian (Lower) Morocco p. 78 pl. ii figs. 3, 4, NELTNER & POCTEY Notes Serv. Min. Maroc No. 74 2 1949.

Despujolsia rochi Neltner & Poctey p. 480, HUPÉ 32.

Diacalymene see *Calymene*.

Diaphanometopus lineatus (Angelin) p. 56, TJERNVIK 111.

Dichelepyge gen. n. [Ceratopygidae] for type *D. pascuali* sp. n. Ordovician (Tremadoc) Argentina p. 202 pl. i figs. 3-6, HARRINGTON & LEANZA Rev. Assoc. geol. argent. 7 3 1952.

Dicranurinae Prantl & Přibyl 1949 considered to include *Dicranurus* Conrad 1841, *Orphanaspis* P. & P. 1949, *Konéprusia* P. & P. 1949 & *Selenopeltoides* P. & P. 1949 p. 310 text-fig. 3; *Ceratonurus* P. & P. 1949 excluded p. 311, ERBEN 17.

Dicranurus Conrad 1841 p. 310 text-fig. 3, *D. monstrosus* (Barrande) text-figs. 1d, 2e, ERBEN 17.

Dictyella Kobayashi 1933 discussed, *D. ozawai* K. pl. xiii fig. 12, Resser's 1942 reference of *Hysteroleenus* ? *manchuricus* K. 1933 to *D.* disputed p. 153, KOBAYASHI 42.

Dictyites Kobayashi 1936 discussed p. 152, KOBAYASHI 42.

Digryops Kobayashi 1940 placed in *Dionidiidae* Gürich 1907 p. 10, WHITTINGTON 118.

Dikelocephalus bröggeri Moberg & Segerberg referred with doubt to *Hagiorites* gen. n. p. 13, KOBAYASHI 40.

Dikelocephalus freeburgensis sp. n. Cambrian (Upper) U.S.A. (Minnesota) p. 195 pl. xxxv fig. 4, pl. xxxviii figs. 4a-e, FENIAK in BELL, FENIAK & KURTZ J. Paleont. 26 2 1952.

Dikelocephalus postrectus Ulrich & Resser 1930 p. 141, *D. thwaitesi* U. & R. of which the following U. & R. spp. are considered synonyms *D. weidmani*, *D. halli* and *D. inaequalis partim* (pl. 19 fig. 6) pp. 141, 147, *D. oweni* var. ? *barretti* U. & R. with synonyms *D. brevis* (non pl. 14 fig. 2), *D. edwardsi*, *D. subplanus partim* (pl. 14 figs. 3, 5) and pl. 14 fig. 9 p. 141, *D. norwalkensis* U. & R. (non pl. 21 figs. 19, 20) p. 141, *D. oweni* U. & R. with synonyms *D. gracilis* (? pl. 9 fig. 6), *D. ovatus*, *D. wisconsinensis*, *D. subplanus*, *D. retrorsus*, *D. beani*, *D. raaschi* (pl. 10 fig. 1 may be var.), *D. brevis partim* (pl. 9 fig. 5 ?) [sic], *D. marginatus partim* (pl. 15 figs. 6, 7), *D. thwaitesi partim* (pl. 21 figs. 7-10), *D. norwalkensis partim* (pl. 21 figs. 19, 20) p. 141, *D. minnesotensis*

Owen with synonyms *D. hotchkissi* U. & R., *D. intermedius*, *D. granosus*, *D. wiltonensis*, *D. cf. orbiculatus* (pl. 17 fig. 1), *D. brevis partim* (pl. 14 fig. 2) and probably *D. orbiculatus* and *Briscoia* sp. (pl. 17 fig. 10) p. 142, *D. marginatus* U. & R. (non pl. 15 figs. 6, 7) with synonym *D. declivis* p. 142, *D. inaequalis* U. & R. (non pl. 19 fig. 6) with probable synonym *D. juvenalis* p. 142, *D. sp. nov.* [undescri.] p. 149, RAASCH 64.

Dimeropygiella n. sp. [undescri.]
Horizon and locality not stated pl. i, MACVICAR 51.

Dindymene frederici-augusti H. & C. p. 430, MAREK 52.

Dionide Barrande 1847 proposal to ICZN to place *D.* on Official List of Generic Names and to suppress *Polytomurus* Hawle & Corda 1847 [quod vide], WHITTINGTON 116.

Dionide Barrande 1847 discussion with list of species p. 5, *Trigryops* Kobayashi 1940 considered a synonym p. 8, *D. atra* Salter 1866 lectotype chosen and figured p. 7 pl. ii figs. 7-9, 12, Reed's 1912 specimens from Scolton removed as *D. turnbulli* sp. n. Ordovician (Llanvirn) Britain (Wales) p. 8 pl. ii figs. 1-6, 10, 11, *D. contrita* Raymond 1920 p. 9 pl. i figs. 3, 4, *D. formosa* (Barrande) topotype material described and figured p. 6 pl. i figs. 1, 2, 5 text-fig. 1 (A, B), WHITTINGTON J. Paleont. 26 1 1952.

Dionide formosa Barr. p. 8, CHLUPÁČ 12.

Dionide tyronensis sp. n. for *D. cf. euglyptus* Smith 1907 (non Angelin) holotype refigured p. 105 pl. v fig. 9 Ordovician Ireland (Tyron), REED Proc. R. Irish Acad. 55B 3 1952.

Dionide from New South Wales p. 117, STEVENS 95.

Dionidella Prantl & Přibyl 1948 discussed p. 10, WHITTINGTON 118.

Dionididae Gürich 1907 discussed, accredited to Gürich rather than Raymond 1920, placed in Cryptolithidea Richter p. 2, considered to include *Dionide*, *Trinucleoides*, *Dionidella* and *Digryops*, WHITTINGTON 118.

Dipharus see *Hebediscus*.

Diplagnostus jarillensis sp. n. p. 10 pl. fig. 10 Cambrian (Middle) Argentina

(Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Diplolichas Phleger considered closely related to *Radiolichas* Reed and tentatively referred to Acanthopyginae p. 168, PŘIBYL & ERBEN 63.

Distazeris Raymond 1937 placed in Acheilid Stock of Catillicephalinae, *D. simplex* (R.) 1937 p. 468, *D. ? rasettii* sp. n. for *Cephalocoelia ? simplex* Rasetti 1946 (non Raymond), Cambrian (Upper) Canada (Quebec) p. 468, SHAW J. Paleont. 26 3 1952.

Dokimocephalus sp. p. 183 pl. xxix fig. 5, BELL, FENIAK & KURTZ 2.

Dolerolenidae fam. n. (nom. n. for Olenopsidae) since *Dolerolenus* Leanza 1949 replaces *Olenopsis* p. 103, considered closely related to Redlichidae p. 134, KOBAYASHI in KOBAYASHI & KATO J. Fac. Sci. Tokyo Univ. [2] 8 1951.

Dolerolenus Leanza considered closely related to *Redlichia* p. 133, *D. sp.* reproductions of Bornemann's 1891 figs. of larval stages etc. text-figs. 1a-d, 6, 9a-c, KOBAYASHI & KATO 43.

Dolichometopsis Poulsen analysed and differences from *Ptarmigania* Raymond listed, assignment of pygidium discussed, Resser's 1939 Langston cranidia of *D.* assigned to *P.* p. 132, LOCHMAN 49.

Dolichometopsis faunule from Arctic Archipelago p. 649, KURTZ, McNAIR & WALES 45.

Dolichometopus boccar Walcott 1916 syntypes discussed p. 51, STOYANOW 97.

Dorypyge ? joanisrusconi sp. n. p. 112 pl. v figs. 6, 7 Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Dorypyge manchuriensis Resser & Endo pl. ii fig. 2, SHIKAMA 89.

Drapanura premesnili Bergeron pl. i fig. 8, SHIKAMA 89.

Drummuckaspis Prantl & Přibyl 1949 considered Ceratocephalidae incertae subfamiliae p. 315, ERBEN 17.

Dunderbergia vermontensis Raymond 1937 considered a synonym of *Greylockia minuta* R. 1937 which is referred to *Meteoraspis* Resser 1935 [quod vide] p. 475, SHAW 88.

Ellipsocephaloides curtus (Whitfield) p. 188 pl. xxxiv figs. 1a, b, *E. gracilis* sp. n. Cambrian (Upper) U.S.A. (Minnesota) which may be synonymous with some of Resser's 1942 spp. p. 188 pl. xxxiv fig. 3, FENIAK in BELL, FENIAK & KURTZ J. Paleont. 26 2 1952.

Ellipsocephalus polytomus Linnarsson 1877, *E. cf. polytomus* L. p. 228 pl. i fig. 3, WAERN 112.

Ellipsocephalus vetustus Pomp. p. 297 pl. i fig. 2, HAVLÍČEK & ŠNAJDR 30.

Ellipsocephalus [sp.] p. 109 pl. vi fig. 4a [where misspelled *Elliprocephalus*], GÓMEZ DE LLARENA 24.

Ellipsotaphrus gen. n. [Cyclopygidae] for type *Aeglina monophthalma* Klouček 1919 Ordovician (Lower) Bohemia p. 311 pl. xxxii figs. 10-16, *E. pumilio* sp. n. Ordovician (Upper) Britain (Scotland) p. 312 pl. xxxiii figs. 1-3, *E. infaustus* (Barrande) holotype refigured p. 313 pl. xxxiii figs. 4, 5, WHITTARD Bull. Brit. Mus. (nat. Hist.) Geol. 1 10 1952.

Ellipsocephala asaphoides (line drawings) text-fig. 1a-d, TASCH 103.

Ebrathia churvaensis Kobayashi pl. ii fig. 1, SHIKAMA 89.

Elvinia roemeri (Shumard) p. 183 pl. xxx figs. 1a-d, BELL, FENIAK & KURTZ 2.

Encrinurella from New South Wales pp. 115, 117, STEVENS 95.

Encrinurus recorded, CHENOWETH 10.

Encrinurus kitakamiensis sp. nov. [nom. nud.] p. 90, SUGIYAMA 100.

Encrinurus (*Coronocephalus*) *kitakamiensis* sp. n. p. 108 text-figs. 1-2 Silurian Japan, SUGIYAMA Proc. imp. Acad. Japan 17 4 1941.

Encrinurus multi-segmentatus Portlock p. 119, REED 69.

Encrinurus punctatus (Wahlenberg) 1821 described from Esthonia (Oesel), structure of glabella discussed, two groups distinguished on basis of distribution of tubercles on axis and pleurae of pygidium, pending analysis of material from Gotland (which may represent more than one sp.) Esthonian forms referred to *E. p.* p. 53 pl. i figs. 1-11, pl. ii figs. 1-5 (fig. 4 from Gotland), pl. iii figs. 1-10, text-figs. (diagrammatic) 1B, 2, 3, 4A-B, 5, *E. seebachi* Schmidt 1881 text-fig. 1A and *E.*

multisegmentatus (Portlock) from Esthonia, *E. mullochensis* Reed, *E. shelvensis* Whittard, *E. onniensis* W., *E. anticostensis* Twenhofel, *E. reflexus* Raymond, *E. sp. ind. W.* and *E. laevis* Ang. characters discussed and compared pp. 63-67 text-fig. 5, *E. rumbaensis* sp. n. p. 67 pl. iv fig. 3, *E. pilistverensis* sp. n. p. 69 pl. iv figs. 5, 6, *E. kiltiensis* sp. n. p. 71 pl. iv figs. 1, 2, *E. sp. indet.* p. 72 pl. iv fig. 4 Silurian (Lower) Esthonia, ROSENSTEIN Publ. geol. Instn. Univ. Tartu No. 62 1941.

Endymionidae Raymond 1920 restricted to include *Endymionia* Billings 1865, *Anisonotella* nom. n. [quod vide], and *Salteria* Thomson 1864, placed in Cryptolithidea Richter p. 4, WHITTINGTON 118.

Entomaspidae—*Hypothetica* Ross referred to this family p. 801, RASETTI 66.

Entomaspis Ulrich 1930 revised description p. 797, *E. radiatus* U. redescribed and facial sutures reinterpreted p. 798 pl. cxvii figs. 1-11 text-figs. 1-3 (restorations), *E. trigonalis* U. reference of associated paratype cranium considered uncertain, holotype pygidium refigured p. 799 pl. cxvii fig. 12, *E. bridgei* sp. n. Cambrian (Upper) U.S.A. (Missouri) p. 799 pl. cxvii fig. 13, *E. clarki* Raymond 1937 considered probably to belong to *Harpides* p. 801, RASETTI J. Paleont. 26 5 1952.

Entomolithus derbyensis [originally *derbiensis*] Phillips 1836 so accredited since Martin's 1809 use of *derbyensis* has no nomenclatorial status p. 153, STUBBLEFIELD 98.

Entomolithus Onicites (*derbyensis*) Martin 1809 lectotype selected p. 151, sp. accredited to Phillips [see *Entomolithus derbyensis* Phillips 1836 and *Phillipsia d.* (P.)] p. 153, proposed to ICNZ that Reed's designation of *E. O.* (*d.*) as type of *Cunningella* R. [quod vide] be set aside, STUBBLEFIELD 98.

Eobronteus see *Scutellum*.

Eochuangia hana Kobayashi pl. ii fig. 11, SHIKAMA 89.

Eodiscid ? [pygidium] p. 89, RUSCONI 83.

Eodiscida regarded as an order equivalent to Protoparia, Proparia etc. and including *Pageia* Walcott p. 495, MOORE 54.

Eodiscida considered as a group including Eodiscidae Raymond 1913 and Pagetiidae Kobayashi 1935 sharply separated from Agnostida and other trilobites p. 439, RASETTI 65.

Eodiscidae Gürich considered to include both *Eodiscus* and *Pagetia*, Kobayashi's 1944 classification considered a determinative key rather than a phyletic system p. 274, ОРИК 61.

Eodiscus Hartt in Walcott 1884 considered as valid, type taken as *Microdiscus scanicus* Linnarsson 1883 (= *Eodiscus pulchellus* Hartt in Walcott 1884) not *Microdiscus schucherti* Matthew 1896 as taken by Raymond 1913 and R. & E. Richter 1941 p. 437, *Spinodiscus* Kobayashi 1943 and *Deltadiscus* K. 1943 [quae vide] considered subjective synonyms p. 438, *E. scanicus* (Linnarsson) regarded as a species rather than as a subspecies of *E. punctatus* (Salter) and the following as synonymous *E. pulchellus* Hartt, *E. punctatus precursor* Matthew 1886, *Spinodiscus matthewi* Kobayashi 1943, *Dawsonia canadensis* K. 1944 p. 447 pl. liii figs. 7-16, pl. liv figs. 10-16, *E. punctatus* (Salter) 1864 with *E. eucentrus* (Linnarsson) 1883 as synonym p. 448 pl. liii figs. 1-6, *E. foveolatus* for *Calodiscus f.* Howell p. 449, RASETTI 65.

Eodiscus fusifrons Saito pl. ii fig. 4, SHIKAMA 89.

Eodiscus punctatus (Salter) p. 73 pl. i figs. 13-16, HUTCHINSON 35.

Eoharpes see *Harpes*.

Eoharpes benighensis (Novák) p. 203, SVOBODA & PRANTL 102.

Eoisotelus Wang genus discussed p. 113, *E. orientalis* W. p. 116 pl. i figs. 1-4, pl. ii figs. 14, 15, *E. mathieui* sp. n. p. 117 pl. i figs. 5-8, pl. ii fig. 13, *E. suni* sp. n. p. 118 pl. ii figs. 18-21 Ordovician (Middle) China, CHANG Bull. geol. Soc. China 29 1-4 1950.

Eomonorachus see *Isalax*.

Epapetia see *Pagetia*.

Epapetia Kobayashi considered doubtfully valid subgenus of *Pagetia* p. 438, RASETTI 65.

Eops eo Richter [R. & E.] from Lower Cambrian of Morocco p. 68 pl. vii figs. 3-4, NELSNER & POCTEY 58.

Eremiproetus see *Proetus*.

Esmeraldina rowei (line drawing) text-fig. 1f, TASCH 103.

Eteraspis-like cranidia [compared with *E. prosorysa* and *E. orbygniana*] found associated with pygidia of *Pseudolevinia* p. 15, RUSCONI 81.

Etmania-like cranidia [compared with *E. hypselogena*] from Argentina p. 15, RUSCONI 81.

Euloma aff. *ornatum* Angelin p. 59, TJERNVIK 111.

Evenkaspis gen. n. [Dalmanitidae (Monorakeinae)] for type *E. marina* sp. n. p. 404 fig. 6, *E. ivanovae* sp. n. p. 404 fig. 7 Ordovician Russia, KRAMARENKO C.R. Acad. Sci. U.R.S.S. NS 86 2 1952.

Fallotia tazemmourtensis, *F. plana*, *F. longispina*, *F. typica* [nomina nuda—gen. et spp. nondescr.] Cambrian (Lower) Morocco p. 480, HUPÉ 32.

Fieldaspis furcata Rasetti pl. i fig. 2, RASETTI 67.

Flexicalymene see *Calymene*.

Flexicalymene recorded, CHENOWETH 10.

Flexicalymene conica sp. n. for *Calymene* ? sp. undet. Endo 1932 pl. 39 fig. 9 Ordovician China p. 45, KOBAYASHI J. Fac. Sci. Tokyo Univ. [2] 8 1951.

Fremontia see *Olenellus*.

Fremontia gen. n. for type *Olenellus fremonti* Walcott Cambrian (Lower) U.S.A. p. 243, RAW Quart. J. geol. Soc. Lond. 92 3 1936 [omitted Z.R. 73 for 1936].

Geragnostus sp. p. 88, RUSCONI 83.

Geragnostus ? sp. p. 56, TJERNVIK 111.

Gigantopygus papillatus, *G. bondoni*, *G. angustalatus* [nomina nuda—gen. et spp. nondescr.] Cambrian (Lower) Morocco p. 481, HUPÉ 32.

Glossopleura faunule from Arctic Archipelago p. 649, KURTZ, McNAIR & WALES 45.

Glossopleura recorded from Mexico p. 1263, STOYANOW 96.

Glossopleura mckeei Resser three paratypes excluded, two being referred to *Anoria tontoensis* (Walcott), *G. leona* sp. n. p. 135 pl. xxv figs. 1-21, *G.* sp. [see *Sonoraspis* gen. n. based on same

specimens] p. 137 pl. xxxi figs. 8-14 Cambrian (Middle) Mexico (Sonora), LOCHMAN Smithsonian. misc. Coll. 119 1 1952.

Goycoia see *Amecephalina*.

Goycoia cerrillensis sp. n. p. 7 pl. figs. 3, 4 Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Greylockia Raymond 1937 considered a synonym of *Meteoraspis* Resser 1935 [quod vide] to which its type *G. minuta* Raymond is referred p. 475, SHAW 88.

Gryptolithus [? error pro *Cryptolithus*] sp. indet., BOROVNIKOV 5.

Hagiorites gen. n. [Dikelocephalidae (Dikelocephalininae)] for type *H. omeishanensis* sp. n. Ordovician (Lower) China p. 13 pl. i fig. 11, *Dikelocephalus bröggeri* Moberg & Segerberg referred with doubt to this genus p. 13 [without doubt p. 51]. *H.* ? sp. revised assignation for Genus et sp. indet. Sun 1931 pl. 1 fig. 6 p. 23, KOBAYASHI J. Fac. Sci. Tokyo Univ. [2] 8 1951.

Hamashania pulchra Kobayashi p. 75, KOBAYASHI 41.

Hamatolenus continuus [nom. nud.—gen. et sp. nondescr.] Cambrian (Lower) Morocco p. 481, HUPÉ 32.

Haniwa quadrata Kobayashi 1933 p. 77 pl. vii figs. 5-7 text-fig. 1, KOBAYASHI 41.

Harpes bischofi A. Roem. p. 316 pl. xxii figs. 4-6, 8, text-figs. 55a-b, *H.* cf. b. pl. xxii fig. 7 text-fig. 56, *H. reticulatus* Hawle & Corda p. 320 pl. xxii fig. 9 text-fig. 57, *H.* cf. *montagnei* H. & C. p. 322, ERBEN 16.

Harpes (Eoharpes) flanaganni (Portlock) p. 106, *H. (E.)* cf. *wegelini* (Angelin) p. 106 pl. v fig. 10, *H. (E.) doranni* (Portlock) type material re-described p. 107, REED 69.

Harpes cf. *venulosus sinensis* Grab. p. 52, YIN 121.

Harpides—*Entomaspis clarki* Raymond 1937 probably belongs to *H.* p. 801, RASETTI 66.

Harpides rugosus Sars & Boek p. 683, NILSSON 60.

Harpides sp. p. 67, TJERNVIK 111.

Hebediscus Whitehouse 1936—implied acceptance of Shaw's 1950 opinion that

H. is a synonym of *Dipharus* Clark 1923 since *D. insperatus* is a larval form of *H. attleborensis* p. 439, RASETTI 65.

Hebediscus attleborensis see *Ptychoparia attleborensis*.

Hebediscus attleborensis recorded from Morocco p. 480, HUPÉ 32.

Hedinaspis Troedsson 1951 error pro *Hedinaspis* Troedsson 1952 (Geol. Fören. Stockh. Förh. 73 4 for 1951) Z.R. 88 for 1951 11 1953 p. 20.

Hemiarges recorded, CHENOWETH 10.

Hemirhodon schucherti Raymond 1937 presence in Rockledge Conglomerate not confirmed p. 482, SHAW 88.

Hicksia elvensis Delgado [1904] with synonyms *H. sphaerica* D., *H. transtaganensis* D., *H. walcotti* D., *H. castroi* D., *H. hughesi* D., *H. barroisi* D., *H. dewalquei* D., *H. minuta* D., *Metadoxides bornemanni* D. non Menegh., *Paradoxides* sp. aff. *abenacus* var. (?) D., *P.* sp. n. aff. *spinosus* D., *P. costae* D. and *Olenopsis* sp. D. p. 177 pl. v figs. 1-8, pl. vi figs. 1-5, pl. vii figs. 1-8, pl. viii figs. 1-11, pl. ix figs. 1-8; pl. x figs. 1-10, pl. xi figs. 1-9, pl. xii figs. 3-10, TEIXEIRA 106.

Holasaphus centropyge Matthew reference to Asaphidae queried but retained p. 104 pl. vii figs. 8-12, HUTCHINSON 35.

Holmia kjerulfi (line drawing) text-fig. 1j, TASCH 103.

"*Holometopus*" see also *Raymondaspis*.

"*Holometopus*" *limbatus* Angelin p. 60, "*H.*" sp. (not *limbatus*) p. 64, TJERNVIK 111.

Homagnotus manantialensis Rusc. p. 119, RUSCONI 83.

Homalonotus viannai Carrington var. α var. n. 2 text-figs., var. β var. n. 1 text-fig. p. 545 Silurian (Upper) Portugal, CARRINGTON DA COSTA An. Assoc. esp. Progr. Cienc. 7 3 1942.

Homalonotus sp. ind. p. 338, DAHMER 15.

Homodictya Raymond 1937 considered a subgenus of *Blountia* Walcott 1916 [quod vide], *H. imitatrix* R. partim pl. 3 fig. 8 referred to *Coosella* ? [*Meteoraspis* ? on p. 475] *minuta* (R.) p. 473 but provisionally to *Coosia* ? sp. [see also *Pygidium* No. 4] p. 479 pl. lvii fig. 38, SHAW 88.

Homotelus see *Asaphus*.

Housia varro (Walcott) p. 183 pl. xxx figs. 3a-d, BELL, FENIAK & KURTZ 2.

Humilogriffithides divinopleurus Inai pl. vii fig. 9, SHIKAMA 89.

Hypagnostus mollensis sp. n. p. 9 pl. figs. 7-9 Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Hypodidranotus gen. n. [Remopleuridae] for type *Remopleurides striatulus* Walcott 1875 Ordovician (Trenton) U.S.A. (New York) p. 1 pl. i figs. 1-10 text-fig. 1, WHITTINGTON Breviora No. 4 1952.

Hypothetica Ross referred to Entomaspidae, *H. rawi* Ross line drawing of holotype cranium text-fig. 4, pygidium of Ross 1951 pl. 19 figs. 32, 33 tentatively assigned p. 801, RASETTI 66.

Hysteroleninae Troedsson considered an artificial subdivision of Ceratopygidae p. 201, HARRINGTON & LEANZA 26.

Hysteropleura Raymond 1937 believed to be a synonym of *Bolaspidea* Resser 1937, *H. macgerriglei* Raymond 1937 paratype figured p. 478 pl. lvii fig. 44, SHAW 88.

Hystricurus crassilimbatus p. 642, *H. ? nudus* p. 645, KURTZ, McNAIR & WALES 45.

Hystricurus (?) *kaipingensis* sp. n. Ordovician (Tremadoc) China p. 120 pl. i figs. 9-11, CHANG Bull. geol. Soc. China 29 1-4 1950.

Idahoia hamulus (Owen) assignment of librigenes with long "fish-hook" spines which may belong to *Chariocephalus* discussed p. 189 pl. xxxvi figs. 2a-c, pl. xxxvii fig. 2, *I. cf. hera* (Walcott) p. 189 pl. xxxii figs. 6a, b, *I. wisconsensis* (Owen) discussed and Hall 1863 *partim*, Walcott 1889 and 1916 excluded p. 189 pl. xxxvii figs. 3a-f, *I. (Psalaspis) patersoni* (Hall) p. 191 pl. xxxiii figs. 2a-e, *I. (P.) marginatus* sp. n. Cambrian (Upper) U.S.A. (Minnesota) p. 190 pl. xxxiii figs. 3a-c, FENIAK in BELL, FENIAK & KURTZ J. Paleont. 26 2 1952.

"*Idahoia*" *minor* Raymond 1937 generic position considered indefinite, mould of holotype figured p. 480 pl. lvii fig. 43, SHAW 88.

Iddingsia Walcott 1924 discussed, *Plataspella* Wilson 1949 considered synonymous, *I. missouriensis* Resser 1942 of which *I. crassimarginata* R. 1942 considered a synonym p. 184 pl. xxx fig. 5, pl. xxxi figs. 4a-c, *I. similis* (Walcott) from which *I. anatina* R. 1942 said not to differ significantly p. 184 pl. xxx figs. 4a-c, pl. xxxi fig. 2, BELL, FENIAK & KURTZ 2.

Iliaenurus breviceps Raymond 1924 presence in Rockledge Conglomerate not confirmed p. 482, SHAW 88.

Iliaenurus ceres Walcott and *I. pagoda* Sun considered synonyms of *Tsinania canens* W. p. 150, KOBAYASHI 42.

Iliaenurus truncatus sp. n. Cambrian (Upper) U.S.A. (Minnesota) p. 196 pl. xxxviii figs. 3a, b, FENIAK in BELL, FENIAK & KURTZ J. Paleont. 26 2 1952.

Iliaenus asaphoides Grab., *I. sp.* p. 52, YIN 121.

Iliaenus chichiangensis Sun 1931 referred to synonymy of *Taihungshania brevia* Sun 1931 p. 14, *I. suni* sp. n. p. 17 pl. i fig. 12, *I. sinensis* Yabe p. 35 pl. ii figs. 1, 2, *I. s. euryrachis* var. n. p. 36 pl. iii figs. 1-5, *I. holmi* Sun p. 37 pl. iii fig. 6 Ordovician China, KOBAYASHI J. Fac. Sci. Tokyo Univ. [2] 8 1951.

Iliaenus esmarki (Schloth.), *E. cf. esmarki* (S.) p. 634, JAANUSSON & MUTVEI 36.

Iliaenus hisingeri (Barr.), ? *I. oblitus* B. p. 430, MAREK 52.

Iliaenus jutsoni Chapman 1912 holotype redescribed and considered not strictly an *Iliaenus*, *I. aff. jutsoni* C. p. 42 pl. i fig. 1, GILL 23.

Iliaenus oblitus Barr., *I. wahlenbergianus* B., *I. cf. zeidleri* B. p. 199, CHLUPÁČ 11.

Iliaenus cf. panderi Barr., *I. wahlenbergianus* B., *I. sp.* p. 8, CHLUPÁČ 12.

Iliaenus richardsoni Reed p. 107 pl. v fig. 6, HARPER 25.

Iliaenus tyronensis Reed p. 114, *I. linnarssonii* (Holm) ? p. 114, *I. transmotus* Reed ? considered probably to include *I. crassicauda* Portlock 1843 (non Dalman) p. 114, *I. cf. marshalli* Salter implied [erroneously] that *I. m.* was founded on Salter 1867 pl. 28 fig. 11 p. 114, *I. spp. indet.* revised identification of *I. centrotus* Portlock (non

Dalman) p. 114, *I. ? quadrato-caudatus* Portlock considered to be possibly an Asaphid p. 115, REED 69.

Illaeus sp. p. 146 (listed), SKJESETH 91.

Inglefieldia imperfecta sp. n. for *Alokistocare* sp. Stoyanow 1942 p. 148 pl. xxx figs. 1-10, cf. *I. imperfecta* p. 150 Cambrian (Middle) Mexico (Sonora), LOCHMAN Smithsonian. misc. Coll. 119 1 1952.

Irvingella sp. p. 184 pl. xxxi fig. 1, BELL, FENIAK & KURTZ 2.

Isalauz gen. n. [Phacopidae (Pterygomtopinae)] for type *I. cañonensis* sp. n. Ordovician (Middle) U.S.A. (Colorado) p. 643 text-figs. 1-4, relations to *Callioptis*, *Eomonorachus* and other Pterygomtopinae p. 643, FREDERICKSON & POLLACK J. Paleont. 26 4 1952.

Isalauz Frederickson & Pollack—suggested that *I.* is a misprint for *Isaulax* p. 1000, BRANSON 6.

Isoteloides usuii revised assigning of *Isotelus* u. Yabe 1920 p. 27 pl. ii figs. 7, 8, *I. ? hupeiensis* for *Isotelus gigas* h. Sun 1931 p. 16 pl. i fig. 13, pl. iv fig. 3, pl. v figs. 1a-b (restorations), KOBAYASHI 40.

Isotelus see *Asaphus*.

Isotelus recorded, CHENOWETH 10.

Isotelus from Arctic Archipelago p. 641, KURTZ, MCNAIR & WALES 45.

Isotelus usuii Yabe referred to *Isoteloides* p. 27, *I. gigas hupeiensis* Sun 1931 to *Isoteloides ? hupeiensis* p. 16, KOBAYASHI 40.

Ithycephalus Resser 1938 considered a subjective synonym of *Kingstonia* Walcott 1924, *I. typicalis* R. p. 472 text-fig. 5c, SHAW 88.

Ithycephalus small cranidia in Warrior Formation may be young *Kingstonia* ara p. 859, TASCH 105.

Jujuyaspis Kobayashi 1936 referred to *Pelturinae* subfam. n. [quod vide], *J. keideli* K. facial suture described as opisthoparian (not proparian as described by K.) p. 196 pl. i fig. 8, *J. steinmanni* K. type of *Salaspis* gen. n. [quod vide] proparian condition of suture confirmed p. 198, HARRINGTON & LEANZA 26.

Kaninia ? platys Raymond 1937 considered to be pygidium of *Blountia* (*Homodictya*) *imitatrix* (R.) which name is selected p. 473, cast of holotype figured pl. lvii fig. 26, SHAW 88.

Kaolishania considered to include *Paramansuyella granulosa* Endo 1939 p. 148, KOBAYASHI 42.

Kaolishania granulata Kobayashi pl. i fig. 9 pl. ii fig. 3, SHIKAMA 89.

Kayserops see *Asteropyge*.

Kettneraspis see *Acanthaloma* and *Leonaspis*.

Kindbladia Frederickson 1948 considered to be only doubtfully more than a sub-genus of *Berkiea* [recte *Berkeia*] Resser 1937, *Kindbladia* sp. p. 184 pl. xxxi fig. 3, BELL, FENIAK & KURTZ 2.

Kingaspidoides alatus, *K. brevifrons* [nomina nuda—gen. et spp. nondescr.] Cambrian (Lower) Morocco p. 481, HUPÉ 32.

Kingaspis campbelli recorded from Lower Cambrian of Morocco with *K. armatus* [nom. nud.—sp. nondescr.] p. 481, HUPÉ 32.

Kingstonia Walcott 1924—*Ithycephalus* Resser 1938 considered synonymous, *K.* subdivided into *K. (Kingstonia)* and *K. (Ucebia)*, *K. (K.) apion* Walcott p. 471 text-fig. 5D, *K. (K.) scrinium* (Raymond) cranidium also described p. 472 pl. lvii figs. 46-48, *K. (K.) typicalis* (Resser) p. 472 text-fig. 5C, *K. (U.) vulgata* Resser p. 471 text-figs. 5A, B, SHAW 88.

Kingstonia Walcott—Shaw's subdivision into *K. (Kingstonia)* and *K. (Ucebia)* considered to be based on a character of only specific importance, *K. apion* variation p. 859, TASCH 105.

Kingstoniinae diagnosis of subfamily p. 859, TASCH 105.

Kistocare corbini Lochman types refigured p. 119 pl. xxviii figs. 12-22, *K. tontoensis* (Resser) holotype refigured, differences from *Parekmania* listed, from Mexico p. 121 pl. xxviii figs. 26-31, LOCHMAN 49.

Kloučekia phillipsi (Barr.) p. 8, CHLUPÁČ 12.

Kloučekia phillipsi (Barr.), *K. ? morrisiana* (B.), *K.* sp. pp. 199, 203, CHLUPÁČ 11.

Kochaspis cooperi sp. n. p. 122 pl. xxv figs. 33, 34, *K. aff. K. celer* (Walcott) with *Ptychoparia chusia* Walcott 1917 *partim* in synonymy p. 123 pl. xxiv figs. 27-30, *K. ?* sp. undet. [may be cranidia of *K. cooperi*] p. 125 pl. xxv figs. 23, 24 Cambrian (Middle) Mexico (Sonora), LOCHMAN Smithson. misc. Coll. 119 1 1952.

Kodymaspis see *Symphysurus*.

Kolihapeltis see *Scutellum*.

Komaspidae Kobayashi—*Stenochilina* Ulrich and *Triarthropsis* U. considered possibly related p. 194, HARRINGTON & LEANZA 26.

Koněprusia Prantl & Přibyl 1949 referred to *Dicranurinae* p. 310 text-fig. 3, *K. ursula* (Barrande) text-fig. 1f, *K. fuscina* (Novák) text-fig. 2f, ERBEN 17.

Kootenia exilaxata Deiss with *K. fragilis* D., *K. infera* D., *K. scapegoatensis* D. and possibly *K. erromena* D. in synonymy from Mexico p. 125 pl. xxvi figs. 1-20, LOCHMAN 49.

Kootenia incerta (Rusc.) for *Olenoides* i. R. pp. 103, 112, RUSCONI 83.

Leiagnostus similis (Barr.) p. 203, SVOBODA & PRANTL 102.

Leiocoryphe ? prisca Rasetti 1946 p. 470 pl. lvii fig. 42, SHAW 88.

Lekanaspis Raymond considered nom. nud. p. 5, WHITTINGTON 118.

Leonaspidinae (Prantl & Přibyl 1949) nom. n. for *Acanthalominae* P. & P. 1949 since *Leonaspis* is preferred to *Acanthaloma* [quae vide] p. 110, R. & E. RICHTER 76.

Leonaspis R. & E. Richter 1917 may be a subjective synonym of *Acanthaloma* Castelnau 1843 but suggested that *A.* be suppressed in interests of nomenclatorial stability, *L. (Kettneraspis) aries* sp. n. (for *Acidaspis aries* R. Richter 1909 nom. nud.) p. 112 pl. iv figs. 27a-c Devonian (Middle) Germany, R. & E. RICHTER Senckenbergiana 33 1-3 1952.

Leonaspis girvanensis (Reed) var. p. 16, TEMPLE 107.

Lepidoproetus see *Proetus*.

Leptoplastinae Angelin considered to include *Leptoplastus* Angelin, *Eurycare* A., *Sphaerophthalmus* A., *Ctenopyge*

Linnarsson and possibly *Mekynophry* Harrington and *Pyraustocranium* Ros p. 194, HARRINGTON & LEANZA 26.

Leptoplastus ovatus Angelin p. 84 pl. iv figs. 1, 2, *L. minor* Westergård p. 85 pl. iv figs. 3-5, ? fig. 6 [*L. sp.* on pl. expl.], *L. latus* Matthew type of *Sphaerophthalmoides* gen. n. [quod vide] p. 90, HUTCHINSON 35.

Levisella oweni (Billings) pl. i fig. 4, RASETTI 67.

Lichas branikensis Barrande 1872 type of *Lobopyge* (*Lobopyge*) gen. et subgen. n. [quod vide] p. 147, *L. nitidulus* B. 1872 type of *Lobopyge* (*Nitidulopyge*) subgen. n. [quod vide] p. 151, *L. sexlobatus* A. Roemer 1855 referred to *L. (N.)* p. 153, *L. s.* Herrmann 1912 non Roem. referred to *L. (L.) hezapteryx* sp. n. p. 148, PŘIBYL & ERBEN 63.

Lichas browni Sun 1931 referred to *Amphilichas* and *Bronteus richteri* Sun referred to synonymy p. 21, *L. (Metopolichas) sinensis* Sun 1931 to *Oncholichas ?* p. 21, KOBAYASHI 40.

Lichas (Acrolichas) hibernicus (Portlock) p. 88, HARPER 25.

Lichas (Acrolichas) hibernicus (Portlock) generic position and affinities discussed, considered that *Nuttainia ? obscura* Portlock 1843 may be its hypostome p. 117, REED 69.

Lichas (Ceratarges) pragensis Bouček referred to *Lobopyge* gen. n. p. 150, PŘIBYL & ERBEN 63.

Lichas sp. from Lower Ordovician, Norway p. 174, SKJESETH 91.

Lichas from New South Wales p. 115, STEVENS 95.

Lingulepis lusitanica Delgado 1904 type of *Delgadella* Walcott 1912 [quod vide] and synonym of *D. souzai* D. p. 175, TEIXEIRA 106.

Lobocephalina Růžicka 1939, following Richter 1941, *Růžickaia* Přibyl 1950 (= *Lobocephalus* Růžicka 1939 non Diesing 1838) considered synonymous, *L. carinata* R. p. 298 pl. i fig. 3, *L. marginata* (Pomp.) p. 298 pl. i figs. 4, 7, HAVLÍČEK & ŠNAJDR 30.

Lobopyge gen. n. [Lichidae (Acanthopyginae)] for type *Lichas branikensis* Barrande 1872, pygidium compared with that of *Acanthopyge* Hawle & Corda text-fig. 2, *L. ? permarginata*

sp. n. p. 158 pl. ix figs. 7-8 text-fig. 6 Devonian (Lower) Germany, *L.* ? n. sp. *A* p. 161 pl. ix fig. 9 text-fig. 7, *L.* ? Hypostom α p. 163 text-fig. 8, *L.* ? Hypostom β p. 166 text-fig. 9, *L.* (*Lobopyge*) subgen. n. *branikensis* (Barande 1872) lectotype selected and figured p. 147 pl. x figs. 1-3, 1'-3', pl. xi figs. 2, 6, 7, pl. xii fig. 2, *L.* (*L.*) *hexapteryx* sp. n. for *Lichas sexlobatus* Herrmann 1912 non Roem. p. 148 pl. ix fig. 2 text-fig. 3 Devonian (Lower) Germany, *L.* (*L.*) *pragensis* (Bouček 1933) holotype refigured p. 150 pl. xi figs. 8-9, *L.* (*Nitidulopyge*) subgen. n. for type *Lichas nitidulus* Barande 1872 p. 151 pl. x figs. 4-5, 4'-5', 6, pl. xi figs. 3-5, pl. xii figs. 3-6, *L.* (*N.*) *sexlobata* (A. Roemer 1855) holotype refigured p. 153 pl. ix figs. 3-6 text-figs. 4-5, *L.* (*N.*) *devonica* sp. n. p. 157 pl. xii figs. 7-8 Devonian (Middle) Bohemia, PŘIBYL & ERBEN Paläont. Z. 26 3-4 1952.

Loganopeltoides Rasetti considered related to *Harpides*, *L. kindlei* line drawing of cranidium text-fig. 5 p. 801, RASETTI 66.

Lonchodomas see *Ampyx*.

Lonchodomas porilloeki (Barr.) p. 199, ČERUPÁČ 11.

Lonchodomas rostratus (Sars) p. 691, NILSSON 60.

Lonchodomas volborthi (Schmidt 1894) p. 178 pl. v figs. 1, 3, 5, 8, 9, 11, SKJESETH 91.

Longianda minor, *L. richteri* [nomina nuda—gen. et spp. nondescr.] Cambrian (Lower) Morocco p. 481, HUPÉ 32.

Lotagnostus trisectus (Salter) including in synonymy muts. *ponepunctus* and *germanus* Matthew 1903 p. 70 pl. i figs. 6-12, HUTCHINSON 35.

Manchurocephalus Endo 1944 considered a synonym of *Paracoosia* Kobayashi p. 12, KOBAYASHI 40.

Mansuyia Sun 1924 emend. 1935 referred to *Leiostegidae* Bradley, genus discussed, *Paramansuyella* Endo 1937 and *Paramansuyia* E. 1939 considered synonyms, *M. orientalis* S. lectoholotype chosen and *M. endoi* Resser 1942, *Paramansuyella taiwanensis* R. and *P. planilimbata* E. 1937 considered synonyms p. 146 pl. xiii figs. 13-15 text-fig. 1, *M. o.* Endo 1939 non Sun referred to *Taishania taiwanensis* S., *M. manchurica*

sp. n. for *Hysteroleenus* sp. undt. Endo 1937 pl. 71 fig. 3 and ? *M. orientalis* S. 1924 *partim* pl. 3 figs. 7i, j Cambrian (Upper) Manchuria p. 148, *M. tani* S. p. 147 pl. xiii figs. 16-18, *M. maladiiformis* Kobayashi 1935 referred to *Kainellidae* p. 154, KOBAYASHI Trans. palaeont. Soc. Japan NS No. 5 1952.

Marsaisia robauri [nom. nud.—gen. et sp. nondescr.] Cambrian (Lower) Morocco p. 480, HUPÉ 32.

Maryvillia triangularis Raymond 1937 (non Raymond 1924) assigned to *Protillaenus marginatus* R. [see also *Pygidium* No. 3] p. 474, SHAW 88.

Megalaspides dalecarlii (Holm) p. 59, TJERNVIK 111.

Megalaspis acuminata Angelin (nom. nud.) p. 622, REGNÉLL 70.

Megalaspis gigas Ang., *M. rudis* A., *M. aff. rudis* A., *M. cf. heros* A., *M. sp.* (cf. *grandis* Sars) p. 634, JÄANUSSEN & MUTVEI 36.

Megalaspis limbata Sars & Boeck p. 683, *M. sp.* p. 691, NILSSON 60.

Megalaspis planilimbata Angelin 1851 including *M. stenorhachis* Brøgger 1882 (non Angelin) *partim* pl. 4 figs. 6, 7 (refigured) p. 158 pl. i figs. 9, 10 text-fig. 6, *M. stenorhachis* A. 1852 [sic] including Brøgger 1882 *partim* pl. 4 fig. 5 p. 160, *M. limbata* (Boeck 1838) p. 161 pl. i figs. 3, 7, *M. ringsakerensis* sp. n. Ordovician (Lower) Norway (Hedmark) p. 161 pl. ii figs. 1-4, 6, *M. polyphemus* Brøgger 1882 holotype refigured p. 162 pl. i figs. 1, 2, 5, 6, 11, *M. heroides* B. 1882 lectotype chosen p. 164 pl. i figs. 4, 8, SKJESETH Norsk geol. Tidsskr. 30 1952.

Megalaspis planilimbata Angelin divided into: earlier form (Lower Planilimbata limestone) p. 56 text-fig. 3A, and later form (Upper P. lst.) p. 57 text-fig. 3B, *M. stenorhachis* A. p. 56, *M. limbata* var. *lata* Törnquist p. 60, TJERNVIK 111.

Mekynophrys Harrington 1938 referred with doubt to *Leptoplastinae* Angelin p. 195, HARRINGTON & LEANZA 26.

Mendogaspis asperoensis sp. n. p. 118 pl. vi fig. 1 Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Mendolaspis Rusconi referred with doubt to Asaphidae, *M. salagastensis* R. [unillustr. 1951] p. 56 pl. ii fig. 28 text-fig. 15, RUSCONI 82.

Mendospidella gen. n. [Oryctocephalidae] p. 75, *M. asperoensis* sp. n. pp. 75, 104, 117 pl. i fig. 2, *M. quebradensis* sp. n. (spelt *quebrandesis* in places on pl. expl.) pp. 76, 110 pl. i figs. 3-4, ? 5, pl. iv figs. 4, 5, text-fig. 3 (reconstruction) Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Menomonidae Walcott 1916 considered a subfamily Menomoniinae [quod vide] of Ptychopariidae Matthew 1888, Nepeidae Whitehouse 1939 considered a synonym of Menomonidae p. 476, SHAW 88.

Menomoniinae Walcott 1916 emend. considered a subfamily of Ptychopariidae Matthew 1888, Nepeidae Whitehouse 1939 considered synonymous; *Densonella* (nom. n. for *Millardia* Walcott) and *Bolaspidella* Resser [quae vide], *Menomonie* Walcott, *Bolaspis* Resser, *Nepea* Whitehouse and provisionally *Dresbachia* Walcott and *Knechtelia* Lochman included p. 477, SHAW 88.

Mesopagetia Kobayashi considered doubtfully valid subgenus of *Pagetia* p. 438, RASETTI 65.

Metaparia new order for Olenellidae p. 124, KIELAN 38.

Meteoraspis Resser 1935 assigned to Crepicephalidae, *Greylockia* Raymond 1937 and *Coleopachys* R. 1937 considered synonyms, *M. ? minuta* (R.) 1937 [referred to *Coosella* ? p. 473] in synonymy of which are placed *Dunderbergia vermontensis* R. 1937, *Coleopachys strix* R. 1937 partim pl. 3 fig. 14, *C. pisum* R. 1937 [and *Homodictya imitatrix* R. 1937 partim pl. 3 fig. 8 on p. 473] p. 475 pl. lvii figs. 8-10 [see also Pygidium No. 6 tentatively associated], SHAW 88.

Mexicaspis difuntosensis sp. n. p. 139 pl. xxii figs. 10-23, *M. stenopyge* Lochman types refigured p. 141 pl. xxiii figs. 10-27 Cambrian (Middle) Mexico (Sonora), LOCHMAN Smithsonian. misc. Coll. 119 1 1952.

Mexicella mexicana Lochman types refigured p. 150 pl. xxiv figs. 1-25, LOCHMAN 49.

Micmacca ellipsocephaloïdes Cobbold [specific name omitted on plate explanation] from Lower Cambrian of Morocco p. 77 pl. v fig. 10, NELSNER & POCTEY 58.

Micmacca cf. *matthewi* recorded from Lower Cambrian of Morocco p. 481, HUPÉ 32.

Microdiscus belli-marginatus Shaler & Foerste 1888 referred to *Serrodiscus* R. & E. Richter, RASETTI 65.

Microdiscus dawsoni Hartt in Dawson 1868 considered type of *Dawsonia* Hartt [quod vide] p. 449, *M. parkeri* Walcott 1886 type material discussed, name restricted to lectotype pygidium (figured by Walcott as cephalon) and referred to *Pagetides* Rasetti p. 439, *M. punctatus* var. *precursor* Matthew 1886 holotype figured pl. liv fig. 15 considered synonym of *Eodiscus scanicus* (Linnarsson) p. 448, *M. scanicus* L. 1883 considered type of *Eodiscus* Hartt 1884 [quod vide] p. 437, *M. schucherti* Matthew 1896 considered not to be type of *Eodiscus* and referred to *Calodiscus*, *M. helena* Walcott 1889 and *M. meeki* Ford 1876 also referred to *C.*, *M. punctatus* Salter 1864 to *Eodiscus*, *M. speciosus* Ford 1873 to *Serrodiscus*, *M. lobatus* Lake non Hall referred to *Calodiscus lakei* sp. n. p. 440, RASETTI 65.

Microdiscus souzai Delgado 1904 and other spp. of Delgado see *Delgadella*.

Microdiscus ? [sp.] p. 108, GÓMEZ DE LLARENA 24.

Millardia Walcott 1916 declared a junior homonym, renamed *Densonella* nom. n. [quod vide] p. 477, SHAW 88.

Miraspinæ (R. & E. Richter 1917) emend. Prantl & Přibyl 1949 accepted as subfamily of Ceratocephalidae to include only *Miraspis* R. & E. R. 1917 p. 310, ERBEN 17.

Miraspis R. & E. Richter 1917 p. 310, *M. mira* (Barrande) text-figs. 1a, 2a, ERBEN 17.

Monocheilus anatinum (Hall) syntype pygidium figured p. 191 pl. xxxiii figs. 5a-c, pl. xxxiv fig. 2, *M. micros* (Walter) p. 191 pl. xxxiii figs. 4a-c, BELL, FENIAK & KURTZ 2.

Monorakeinae subfam. n. of Dalmanitidae Delo for *Monorakos* Schmidt, *Evenkaspis*, *Parevenkaspis* and *Ceratevenkaspis* genn. n. p. 401, KRAMARENKO C.R. Acad. Sci. U.R.S.S. NS 86 2 1952.

Monorakos Schmidt 1886 referred to *Monorakeinae* subfam. n., *M. tunguskaensis* sp. n. p. 402 figs. 1, 2, *M. mutabilis* sp. n. p. 402 fig. 3, *M. magnus* sp. n. p. 402 fig. 4, *M. os-sacrum* sp. n. p. 402 fig. 5 Ordovician Russia, KRAMARENKO C.R. Acad. Sci. U.R.S.S. NS 86 2 1952.

Myopsolenus magnus [nom. nud.—gen. et sp. nondescr.] Cambrian (Lower) Morocco p. 481, HUPÉ 32.

Namiolenoides subgen. n. of *Parabolina* ? [quod vide] p. 110, RUSCONI 83.

Neltneria [nom. nud.—gen. nondescr.], *N. jaqueti* [(Neltner & Poctey)] Cambrian (Lower) Morocco p. 481, HUPÉ 32.

Neocobboldia gen. n. [Pagetiidae] (nom. n. for *Cobboldia* Lermontova 1940 non *Cobboldia* Brauer 1887) for type *Cobboldia dentata* L. p. 438, RASETTI J. Paleont. 26 3 1952.

Neoredlichia latigena [nom. nud.—gen. et sp. nondescr.] Cambrian (Lower) Morocco p. 480, HUPÉ 32.

Nephranomma subgen. n. of *Phacopidella* [quod vide] p. 334, ERBEN 16.

Nevadia weeksi (line drawing) text-fig. 1g, TASCH 103.

Nileidarum gen. ind. p. 437 pl. ii fig. 4, MAREK 52.

Nileu [error pro *Nileus*] *armadillo* Dalman p. 39, KOBAYASHI 40.

Nileus armadillo Dalm. pp. 683, 691, NILSSON 60.

Nileus armadillo (Dalman 1827) p. 170 pl. ii figs. 7, 8, 11, *N. limbatus* Brøgger 1882 p. 170 pl. ii figs. 9, 10, SKJESETH 91.

Nileus armadillo (coll.) Dalman p. 54, TJERNVIK 111.

Nileus pater Holub referred to *Paranileus* gen. n. p. 41, *N. holoubkovensis* Růžicka [error pro Růžicka] to *Pseudonileus* gen. n. p. 41, KOBAYASHI 40.

Niobe (*Niobella*) *homfrayi* Salter p. 103 pl. vii fig. 7, HUTCHINSON 35.

Niobe ? *kientehsiensis* revised assignment for *Asaphus* k. Sheng p. 25 pl. v fig. 4, KOBAYASHI 40.

Niobe laeviceps (Dalman) 1827 p. 169 pl. ii figs. 5, 12, 13 [non 11], SKJESETH 91.

Niobe sp. (aff. *obsoleta* Linnarsson) p. 57 text-fig. 4A, *N. emarginula* Angelin p. 54, *N. sp.* [aff. *laeviceps* (Dalman)] p. 57 text-fig. 4B, TJERNVIK 111.

Niobella see *Niobe*.

Nitidulopyge subgen. n. of *Lobopyge* [quod vide].

Notocoryphe [Rusconi] referred to *Dikelocephalidae*, *N. martillensis* sp. n. [unillustr.] p. 95 Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Nuttainia Eaton date of publication discussed p. 293, STÄUBLE 94.

Nuttainia ? *obscura* Portlock 1843 considered to be possibly hypostome of *Lichas* (*Acrolichas*) *hibernicus* (P.) p. 119, REED 69.

Odontopleura ovata Emmrich text-figs. 43c and c₁, ERBEN 16.

Odontopleuridae Burmeister see *Acidaspis*.

Odontopleuridae (*Acanthalomatinae*) see *Acanthalomatinae*.

Odontopleuridae (*Leonaspidinae*) see *Leonaspidinae*.

Ogygioides raymondi Kobayashi pl. v fig. 1, SHIKAMA 89.

Ogygopsis ? *martillensis* sp. n. pp. 81, 117 pl. i fig. 6 pl. iv fig. 3, *O. ? isidrensis* Rusc. p. 81 Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Olenellus from Arctic Archipelago p. 650, KURTZ, MCNAIR & WALES 45.

Olenellus bondoni sp. n. Cambrian (Lower) Morocco p. 68 pl. iii figs. 1-5, pl. iv figs. 1-6, pl. v figs. 1-7, NELTNER & POCTEY Notes Serv. Min. Maroc No. 74 2 1949.

Olenellus bristolensis (Resser) 1928 p. 30 pl. vii figs. 1, 2, 5, pl. viii figs. 1-11 (growth-stages), *O. fremonti* Walcott 1910 p. 30 pl. vii fig. 6, *O. insolens* (Resser) 1928 p. 30 pl. v figs. 1-13 (growth-stages), pl. vi figs. 1-3, *O. [sp.]* (hypostome) p. 37 pl. vii fig. 3, RICCIO 71.

Olenellus gilberti Meek 1874 p. 17 pl. i figs. 13-17, *O. schofieldi* sp. n. p. 18 pl. i figs. 1-4, *O. eagerensis* sp. n. p. 19 pl. i figs. 5-12 Cambrian (Lower) Canada (British Columbia), BEST Proc. roy. Soc. Can. (3) 46 [4] 1952.

Olenellus hermani and *O. fremonti* text-figs. 11, i, TASCH 103.

Olenellus ? *macphersoni* Delgado 1904 see *Callavia choffati* (D.).

Olenellus (*Olenellus*) *truemani* Walcott cotypes discussed, described from Mexico p. 89 pl. xviii figs. 6-12, *O. (Fremontia) fremonti* W. cotypes discussed, described from Mexico p. 91 pl. xviii figs. 4, 5, *O. sp.* undet. p. 94, LOCHMAN 49.

Olenidae divided into Oleninae, Triarthrinae, Leptoplastinae and Pelturinae subfam. n. p. 194, HARRINGTON & LEANZA 26.

Olenidae (Pelturinae) subfam. n. see Pelturinae.

Oleninae Kobayashi emend. considered to include *Olenus* Dalman, *Parabolina* Salter and possibly *Plesio-parabolina* Harrington & Leanza p. 194, HARRINGTON & LEANZA 26.

Olenoides ? *australis* Rusc. p. 94, *O. ? lasherensis* sp. n. pp. 111, 117 pl. ii fig. 5, pl. iv fig. 6 text-fig. 7 [query omitted] Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Olenoides curticei Walcott pl. i fig. 3, RASETTI 67.

Olenoides incertus Rusconi see *Kootenia incerta*.

Olenoides (?) p. 76, LAVERDIÈRE 46.

Olenopsidae replaced by Dolero-lenidae nom. n. p. 103, KOBAYASHI in KOBAYASHI & KATO 43.

Olenus ? *multicostatus* sp. n. [unillustr.] Cambrian (Middle) Argentina (Mendoza) p. 187, RUSCONI Rev. Mus. Hist. nat. Mendoza 2 3 1948.

Olenus ? *multicostatus* Rusc. p. 113, RUSCONI 83.

Olenoides [? recte *Olenoides*] *asperoensis* sp. n. see *Parabolina* ? (*Namio-lenoides*) a. sp. n.

Omeipsis gen. n. [Asaphidae (Taishungshaninae)] for type *Acidaspis huangi* Sun 1931 Ordovician (Lower) China p. 15 pl. i figs. 7-10 pl. v fig. 2 (restoration), KOBAYASHI J. Fac. Sci. Tokyo Univ. [2] 8 1951.

Onchaspis see *Acidaspis*.

Onchocephalus buelnaensis sp. n. p. 104 pl. xx figs. 5, 18-29, *O. mexicanus*

ps. n. p. 105 pl. xx figs. 6-17 Cambrian (Lower) Mexico (Sonora), LOCHMAN Smithson. misc. Coll. 119 1 1952.

Oncholichas ? *sinensis* revised assignation for *Lichas (Metopolichas) sinensis* Sun 1931 p. 21 pl. iv fig. 10 (restoration of pygidium), KOBAYASHI 40.

Onchonotus ? *minor* revised assignment of *Bathyrurus minor* Sun p. 76, KOBAYASHI 40.

Onnia see *Cryptolithus*.

Onnia Bancroft considered probably only a subgenus of *Cryptolithus* [quod vide] p. 435, MAREK 52.

Orometopus salagastensis (Rusconi) for *Asaphus* ? *salagastensis* [unillustr. 1951] p. 54 pl. ii fig. 27 text-figs. 13, 14, RUSCONI 82.

Orphanaspis Prantl & Přibyl 1949 discussed and *Selenopeltoides* P. & P. considered very close if not identical, *O. gracilicauda* sp. n. Devonian (Lower) p. 306 pl. xx fig. 7 text-fig. 52, *O. cornuticauda* sp. n. Devonian (Middle) p. 314 pl. xx fig. 13 text-fig. 54 Germany, ERBEN Neues Jb. Geol. Paläont. Abh. 94 2-3 1952.

Orphanaspis Prantl & Přibyl 1949 referred to Dicranurinae p. 310 text-fig. 3, *O. orphana* (Barrande) text-fig. 2d, ERBEN 17.

Ortmathops atavus (Barr.) p. 203, SVOBODA & PRANTL 102.

Oryctocephalus orientalis Saito pl. i figs. 10, 11, SHIKAMA 89.

Oryctocephalus walcotti Resser 1938 pl. i fig. 1, RASETTI 67.

Ory[cto]cephalus [recte *Oryctocephalus*] (*Viñakainella*) subgen. n. p. 97, *O. (V.) asperoensis* sp. n. p. 97 pl. i fig. 14, p. iii figs. 9-14, 18, text-fig. 5 [for other spp. see *Viñakainella*] Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Orygmaspis ? *asperoensis* sp. n. p. 117 pl. vi figs. 4, 5 (reconstruction) Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Osceolia osceola (Hall) of which the following Ulrich & Resser 1930 spp. are considered synonyms *O. obsoleta*, *O. arguta*, *O. lodensis reflexa* and *O. praecipua* pp. 141, 147, RAASCH 64.

Otarion Zenker recorded from Quebec, LAVERDIÈRE & STAUBLE 47.

Otarion (*Otarion*) *hydrocephalum* (A. Roem.) *hydrocephalum* discussed and neotype chosen p. 233 pl. xix figs. 11-12 text-figs. 26a-e, Richter 1914 fig. 2 excluded (referred to n. sp. A, n. sp. B, n. subsp. α), *O. (O.) h. barrandei* (Hawle & Corda) text-fig. 26f, *O. (O.) druida* sp. n. p. 242 pl. xix figs. 13-14 text-figs. 27a-b, *O. (O.) convexum* (Hawle & Corda) p. 246 pl. xix fig. 15 text-fig. 28, *O. (O.)* sp. p. 248 pl. xix fig. 16 text-fig. 29, *O. (Coignouina)* cf. *davidsoni* (Barrande) p. 249 pl. xix fig. 10 text-fig. 30, ERBEN Neues Jb. Geol. Paläont. Abh. 94 2-3 1952.

Otarion sp. [compared with *O. planifrons* (Eichwald)] p. 203 pl. vii fig. 13, CHAUBET 9.

Pachyaspis faunule from Arctic Archipelago p. 648, KURTZ, McNAIR & WALES 45.

Pachyaspis deborra sp. n. p. 152 pl. xxv figs. 25-32, *P. isabella* sp. n. p. 154 pl. xxvi figs. 21-29, *P. sp.* undet. p. 155 pl. xxiv fig. 26 Cambrian (Middle) Mexico (Sonora), LOCHMAN Smithsonian. misc. Coll. 119 1 1952.

Paedeumias clarki Resser 1928 p. 33 pl. ix figs. 1-4, *P. mohavensis* Crickmay 1933 p. 33 pl. ix figs. 7, 8, *P. nevadensis* (Walcott) 1928 [recte 1910] p. 33 pl. ix figs. 5, 6, *P. sp.* pl. ix fig. 9, *P. [sp.]* (hypostome) p. 37 pl. vii fig. 4, RICCIO 71.

Paedeumias hansenii and *P. robustoensis* (line drawings) text-figs. 1e, m, TASCH 103.

Paedeumias puertoblancoensis sp. n. Cambrian (Lower) Mexico (Sonora) p. 94 pl. xix figs. 9-16, LOCHMAN Smithsonian. misc. Coll. 119 1 1952.

Paenebeltella Ross 1951 discussed and referred to *Pelturinae* subfam. n. [quod vide], differences from *Parabolinopsis* Hoek may be only of specific importance p. 196, HARRINGTON & LEANZA 26.

Pagetia Walcott 1916 referred to *Eodiscidae* Gürich p. 274, *P. bootes* Walcott hypostome figured in place p. 272, text-figs. 1, 2, *P. (Eopagetia) significans* (Etheridge) recorded from Cambrian of Australia (Northern Territory), Kobayashi's 1944 interpretation considered erroneous p. 272, ОРИК 61.

Pagetia (*Eopagetia*) Kobayashi and *P. (Mesopagetia)* K. considered doubtfully valid subgenera of *Pagetia* p. 438, RASETTI 65.

Pagetina Lermontova 1940 (type *P. rjonsnitzkii* L.) declared a junior homonym, not renamed as the forms assigned to it may belong to *Pagetia* p. 438, RASETTI 65.

Paraaulacopleura subgen. n. see *Aulacopleura*.

Parabasiliscus typicus Kobayashi pl. v fig. 5, *P. shirakii* K. pl. v fig. 6, *P. yamanarii* K. pl. v fig. 7, SHIKAMA 89.

Parabolina ? (*Namiolenoides*) subgen. n. p. 110, *P. ? (N.) asperoensis* sp. n. [called *Olenoides* (? recte *Olenoides*) a. on pl. expl.] p. 110 pl. ii fig. 6 Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Parabolina ? australis Rusc. p. 119, RUSCONI 83.

Parabolina spinulosa (Wahlenberg) p. 79 pl. iii figs. 7-10, *P. dawsoni* Matthew of which *P. longicornis* Westergård 1922 is considered a probable synonym p. 80 pl. iii figs. 11-13, HUTCHINSON 35.

Parabolinella Brögger 1882 referred to *Triarthrinae* Ulrich p. 194, *P. limitis* B. 1882 lectotype chosen p. 192, *P. rugosa* B. generic reference doubted p. 197, HARRINGTON & LEANZA 26.

Parabolinella triarthra (Callaway) of which *P. ? quadrata* Matthew 1900 is considered a synonym (syntype figured) p. 82 pl. iii fig. 14, HUTCHINSON 35.

Parabolinoides hedrus sp. n. Cambrian (Upper) U.S.A. (Minnesota) p. 186 pl. xxxii figs. 2a-c, KURTZ in BELL, FENIAK & KURTZ J. Paleont. 26 2 1952.

Parabolinopsis Hoek 1912 referred to *Pelturinae* subfam. n. [quod vide] p. 195, *Andesaspis* Kobayashi 1935 considered a synonym as *A. argentinensis* K. is referred to *P. mariana* H. p. 196, HARRINGTON & LEANZA 26.

Parabriscoia ? castellanosi Rusc. p. 96, RUSCONI 83.

Paracoosia Kobayashi—*Manchurocephalus* Endo 1944 considered a synonym p. 12, KOBAYASHI 40.

Paracrepicephalus cf. *P. thoosa* (Walcott) Raymond 1937 see *Pygidium* No. 6.

Paradiscus Kobayashi 1943 considered a subjective synonym of *Serrodiscus* R. & E. Richter 1941 as its type *Microdiscus speciosus* Ford 1873 is referred to *S.* p. 438, RASETTI 65.

Paradoxides recorded from southwestern Spain, LOTZE 50.

Paradoxides ? *bucephali* var. Portlock see *Phacops* (*Achatella*) *truncato-cardatus* (P.).

Paradoxides costae Delgado 1904 referred to synonymy of *Hicksia elvensis* D. [quod vide] p. 178, TEIXEIRA 106.

Paradoxides eteminicus Matthew p. 73 pl. i fig. 17, *P. abenacus* M. p. 74 pl. i fig. 18 pl. ii figs. 1-4, *P. hicksi* Salter p. 76 pl. ii fig. 5, *P. davidis* S. p. 76 pl. ii figs. 6-8, *P. forchhammeri* Angelin p. 77 pl. ii figs. 9, 10, HUTCHINSON 35.

Paradoxides minor (Boeck), *P.* sp. p. 299 pl. i fig. 1, HAVLÍČEK & ŠNAJDR 30.

Paradoxides oelandicus Sjögren 1872, *P. sjögreni* Linnarsson 1877, *P. insularis* Westergård 1936 and ? *P. paradoxissimus* (Wahlenberg 1821) p. 228, WAERN 112.

Paradoxides pinus Westergård 1936 so accredited rather than to Holm MS p. 16 pl. i figs. 3, 4, *P. oelandicus* Sjögren 1872 of which P. n. sp. Strand 1929 is considered possibly a variety p. 16 pl. i fig. 1, *P.* sp. probably of *oelandicus* group pl. i fig. 2, HENNINGSMOEN 31.

Paradoxides pradoanus Barr. et Vern. p. 398 pl. [second Cambrian], GARCÍA-FUENTE 21.

Paradoxides pradoanus Vern. & Barr. p. 129 fig. 5, ALMELA & REVILLA 1.

Paradoxides rugulosus Corda, *P. mureroensis* R. & E. Richter, *P. barrandei* Barrois p. 706, *P. spinosus* Boeck pl. ii (lower fig.), MELÉNDEZ & HEVIA 53.

Paradoxides torelli Westergård recorded from Norway (Ringsaker) p. 26, HENNINGSMOEN 31.

Paradoxides sp. from Cambrian of Morocco p. 76 pl. vi fig. 6, NELTNER & POCTEY 58.

Paradoxides [? spp.] pp. 108, 109 pl. v figs. 1a, 2a, pl. vi fig. 6a, GÓMEZ DE LLARENA 24.

Paramansuyella Endo 1937 considered synonymous with *Mansuyia* Sun 1924 emend. 1935 [quod vide] since its type *P. puteata* E. 1937 is referred to *M.* as is *P. glabra* E. 1937, *P. planilimbata* E. 1937 and *P. taianensis* Resser 1942 synonyms of *M. orientalis* S., *P. granulosa* E. 1939 referred to *Kaolishania* p. 146, KOBAYASHI 42.

Paramansuyia Endo 1939 considered a misspelling of *Paramansuyella* E. 1937 [quod vide], *P. chinensis* E. 1939 referred to *Mansuyia* Sun 1924 p. 146, KOBAYASHI 42.

Paranileus gen. n. [Symphysuridae] for type *Nileus pater* Holub Tremadoc Czechoslovakia p. 41, KOBAYASHI J. Fac. Sci. Tokyo Univ. [2] 8 1951.

Pararedlichia subtransversa, *P. pulchella*, *P. rocki* [nomina nuda—gen. et spp. nondescr.] Cambrian (Lower) Morocco p. 480, HUPÉ 32.

Paratermierella elegans [nom. nud.—gen. et sp. nondescr.] Cambrian (Lower) Morocco p. 481, HUPÉ 32.

Paratrinucleus from Quebec p. 306 text-fig. 11, STÄUBLE 94.

Parehmania tontoensis Resser referred to *Kistocare* [quod vide] p. 121, *P.* sp. undet. p. 155 pl. xxxi figs. 5-6, LOCHMAN 49.

Paraops transitans [nom. nud.—gen. et sp. nondescr.] Cambrian (Lower) Morocco p. 481, HUPÉ 32.

Paravenkaspis gen. n. [Dalmanitidae (Monorakeinae)] for type *P. egloni* sp. n. p. 404 fig. 8 Ordovician Russia, KRAMARENKO C.R. Acad. Sci. U.R.S.S. NS 86 2 1952.

Parodiscus [? error pro *Paradiscus*] *coloi* [nom. nud.—sp. et ? gen. nondescr.] Cambrian (Lower) Morocco p. 481, HUPÉ 32.

Peltura scarabaeoides (Wahlenberg) p. 93 pl. v figs. 1-6, HUTCHINSON 35.

Pelturinae subfam. n. [Olenidae] to include *Peltura* Milne Edwards, *Acerocare* Angelin, *Protopeltura* Brögger, *Boeckia* B., *Parabolinopsis* Hoek, *Beltella* Lake, *Westergardia* Raymond, *Jujuyaspis* Kobayashi, *Acerocarina* Poulsen, *Paenebeltella* Ross and *Saltaspis* gen. n. p. 195, HARRINGTON & LEANZA Rev. Asoc. geol. argent. 7 3 1952.

Pemphigaspis [Hall 1863] discussed p. 529, TASCH 104.

Peronopsis fallax (Linnarsson 1869) p. 15 pl. ii fig. 5, HENNINGSMOEN 31.

Peronopsis fallax (Linnarsson 1869) p. 229, WÄERN 112.

Peronopsis cf. *fallax* (Linnarsson) var. *concinus* (Matthew) p. 69 pl. i figs. 2, 3, HUTCHINSON 35.

Peronopsis (many spp.) p. 76 pl. i figs. 2, 4, LAVERDIÈRE 46.

Peronopsis [sp.] pl. vi fig. 6a, GÓMEZ DE LLABENA 24.

Perrector perrectus Richter [R. & E.] from Lower Cambrian of Morocco p. 68 pl. vii fig. 2, NELTNER & POCTEY 58.

Petigururus from Arctic Archipelago p. 644, KURTZ, MCNAIR & WALES 45.

Phacopidae (Pterygomelopinae) see *Isalaux*.

Phacopidella (*Nephronomma*) subgen. n. [Dalmanitidae] for type *P. (N.) drepanomma* sp. n. p. 335 pl. xxiii figs. 5-6 text-figs. 62a-b, *P. (N.) harpomma* sp. n. p. 339 pl. xxiii fig. 7 text-fig. 63 Devonian (Lower) Germany (Harz), *P. (N.)* aff. *h.* from Middle Devonian p. 341, *P. limaria* (Perna) and (probably) *P. revertens* (P.) and *Phacops miser* Barrande referred to *P. (N.)* p. 334, ERBEN Neues Jb. Geol. Paläont. Abh. 94 2-3 1952.

Phacopidella (*Denckmannites*) aff. *volborthi* (Barrande 1852) p. 639 pl. xxii fig. 4 text-fig. 1D, PILLET 62.

Phacopidina apiculata (Salter) revised identification of *Phacops* (*Acaste*) *appendiculatus* Elles & Wood 1895 non Salter p. 11, TEMPLE 107.

Phacops apiculatus Marr 1916 non Salter referred to synonymy of *Dalmanitina olini* sp. n. p. 20, TEMPLE 107.

Phacops appendiculatus Salter 1864 discussed and referred to synonymy of *Dalmanitina mucronata* (Brongniart) p. 7, *P. (Acaste) a.* Elles & Wood 1895 non S. referred to *Phacopidina apiculata* (S.) p. 11, *P. a. E. & W.* 1896 *partim* to *D. olini* sp. n. p. 20, TEMPLE 107.

Phacops (*Phacops*) *breviceps* Barrande p. 323, *P. (P.) b. minusculus* Novák pl. xxiii figs. 1-4, *P. (P.) intermedius* B. p. 324, *P. (P.) sternbergi* Hawle & Corda p. 325, *P. (P.) signatus* H. & C.

p. 326, *P. (P.) planilimbatus* Wedekind p. 327 pl. xxiii fig. 11 text-fig. 58, *P. (P.) fecundus* B. degener B. with synonym *Proetus richteri* Kayser 1878 p. 328 pl. xxiii figs. 8-10 text-figs. 59a-d, *P. (P.) f. major* B. p. 330, *P. (Reedops) bronni* (B.) p. 330 pl. xxiii fig. 12 text-fig. 60, *P. (R.) walcotti* (W.) p. 332 text-fig. 61, ERBEN 16.

Phacops (*Calliops*) *brongniartii* (Portlock) affinities discussed, considered that *P. murchisonii* P. regarded by Salter 1864 as synonymous may belong to another species p. 122, REED 69.

Phacops cf. *chinensis* Reed, *P. sp.* p. 52, YIN 121.

Phacops eucentra Angelin 1851 discussed, pygidium referred to synonymy of *Dalmanitina mucronata* (Brongniart) while cephalon (from figure) considered aberrant p. 9, *P. e.* Olin 1906 considered a distinct sp. for which *D. olini* sp. n. [quod vide] erected p. 20, TEMPLE 107.

Phacops (*Dalmanitina*) *eucentrus* (Angelin) revised identification of *Phacops mucronatus* Smith 1907 (non Brongniart) *partim* pl. 8 figs. 10, 11, affinities and age discussed p. 123, REED 69.

Phacops (*Phacops*) *ferdinandi* Kayser sections pl. vii figs. 1-6, MOSEBACH 56.

Phacops (*Phacops*) cf. *ferdinandi* Kayser, *Phacops* sp. p. 338, DAHMER 15.

Phacops (*Dalmanites* ?) *kiaeri* Troedsson revised identification of *Phacops mucronatus* Smith 1907 (non Brongniart) *partim* pl. 8 figs. 12, 13, reference of *P. kiaeri* to *Dalmanites* queried p. 124, REED 69.

"*Phacops*" *kuckersianus* Schmidt [cf. inserted on plate explanation] p. 88 pl. v fig. 5, HARPER 25.

Phacops latifrons Bronn. p. 100 text-figs. 1-4, RODRÍGUEZ 78.

Phacops miser Barrande referred tentatively to *Phacopidella* (*Nephronomma*) subgen. n. p. 334, ERBEN 16.

Phacops mucronatus (Brongniart) see *Dalmanitina mucronata*, following records excluded from synonymy of *D. m.*—Hoffmann 1858, var. Marr & Roberts 1885 (= *P. robertsi* Reed), Marr & Nicholson 1888 (= *Dalmanites* cf. *weaveri tenuimucronata* Whittard), aff. King 1928 p. 11; Marr 1913 (p. 11) referred to *D. m. brevispina* var. n. p. 14; following referred to *D. olini* sp. n.—

Fearnside et al. 1907, Elles 1909 *partim*, Marr 1913 (p. 5) *partim*, Marr 1916 *partim* & Pugh 1929 *partim* p. 20; Salter's 1864 specimens discussed and refigured, locality considered doubtful, pygidium referred to *D. m.* p. 7 pl. ii fig. 6 but glabella to *D. ? sp.* on expl. pl. ii fig. 5 [although both in synonymy of *D. m.* p. 10], TEMPLE 107.

Phacops munchisonii Portlock may not be synonymous with *P. (Calliops) brongniartii* (P.) [quod vide] p. 123, REED 69.

Phacops pulchellus Linnarsson 1866 probable holotype refigured pl. i fig. 3, referred to synonymy of *Dalmanitina mucronata* (Brongniart), *P. p.* Foerste 1887 a homonym p. 8, TEMPLE 107.

Phacops (Achatella) truncato-caudatus (Portlock) affinities discussed, hypostome described similar to *Paradoxides ? bucephali* var. Portlock which was ascribed by Salter to *P. (A.) t.-c.* p. 121, REED 69.

Phaëtonellus Novák 1890 genolecto-type *P. planicaudus* (Barrande 1852), *P. p.* (Barr.) *ulcifrons* subsp. n. p. 221 pl. xix figs. 7-8 text-fig. 22a-d Devonian (Lower) Germany (Harz), *P. p. rhenanus* N. pl. xix fig. 9, ERBEN Neues Jb. Geol. Paläont. Abh. 94 2-3 1952.

Pharostoma parapulchra sp. n. for *Calymene pulchra* Sun 1932 non Barrande Ordovician China p. 46 pl. iii fig. 9, KOBAYASHI J. Fac. Sci. Tokyo Univ. [2] 8 1951.

Phillipsia Portlock 1843 type taken as *P. kellyi* [originally *kellii*] *P.* 1843 selected Vogdes 1890 (Miller's 1889 selection of *Asaphus gemmuliferus* Phillips 1836 being invalid) p. 152, *P. kellyi* lectotype selected and species considered distinct from *P. gemmulifera* p. 153, *P. jonesi* Portlock 1843 lectotype selected, proposed that *P. j.* be designated by ICZN as type of *Cummingella* Reed 1942 [quod vide] p. 152 pl. i figs. 1a, b, c, *P. j.* var. *seminifera* ? Phillips of Portlock 1843 (= *P. derbyensis* Woodward 1883 non Martin 1809) referred to *P. j.* pl. i figs. 2a, b, c, *P. derbyensis* (Phillips) 1836 so attributed rather than to Martin 1809 [see *Entomolithus Onicites (derbyensis)*], STUBBLEFIELD 98.

Phillipsia eichwaldi Fischer p. 25 text-figs. 1-3, *P. (Pseudophillipsia) hungarica* sp. n. p. 29 text-fig. 4 Permian Hungary, SCHRÉTER Földt. Közl. 78 1948.

Phillipsia leei Woodw. p. 403 pls. [second and third Carbonifero inferior], *P. eichwaldi* Fischr. p. 403 pl. [second C. i.], GARCÍA-FUENTE 21.

Philonyx subgen. n. [Asteropyginae] of *Asteropyge* ? [quod vide] p. 85, R. & E. RICHTER 75.

Phylacops see *Cyclopyge*.

Phylacops mirabilis (Salter) 1853 lectotype figured p. 310 pl. xxxii figs. 6-8, *P. kloučeki* (Richter) for *Cyclopyge speciosa* var. *kloučeki* R., *P. synophthalmus* (Klouček) for *Aeglina prisca* var. *synophthalma* K. p. 311, WHITTARD 114.

Phylacops cf. *vigilans* Cooper & Kindle p. 93, HARPER 25.

Piriproetus subgen. n. of *Proetus* [quod vide] p. 201, ERBEN 16.

Placoparia zippei tumida Klouček p. 203, SVOBODA & PRANTL 102.

Plagiolaria gen. n. (nom. n. for *Plagiops* Kegel 1931 non Amyot 1846) for type *Phacops plagiophthalmus* Rein. Richter 1865 p. 233, KEGEL Senckenbergiana 33 4-6 1952.

Plagiops Kegel 1931 non Amyot 1846 renamed *Plagiolaria* nom. n. p. 233, KEGEL 37.

Platuspella Wilson 1949 referred to synonymy of *Iddingsia* Walcott 1924 [quod vide] p. 184, BELL, FENIAK & KURTZ 2.

Plesioparabolina Harrington & Leanza 1942 referred with doubt to *Oleninae* Kobayashi emend. p. 194, HARRINGTON & LEANZA 26.

Plethopeltidae Raymond 1925 interpreted to include *Plethopeltis*, *Stenopilus*, *Leiocoryphe*, *Camaraspis*, *Plethometopus* and *Arapahoia* p. 470, SHAW 88.

Platololina Shaw 1951 referred to *Triarthrinae* Ulrich p. 196, HARRINGTON & LEANZA 26.

Pliomera actinura (Dalman) p. 54, TJERNVIK 111.

Pliomoridae from New South Wales p. 115, STEVENS 95.

Polytomurus Hawle & Corda 1847 considered objective synonym of *Dionide* Barrande 1847, as exact dates of publication unknown proposed that *P.* be suppressed, WHITTINGTON 116.

Přibylia see *Proetus*.

Primaspis primordialis (Barr.) p. 204, SVOBODA & PRANTL 102.

Proceratocephala Prantl & Přibyl 1949 excluded from Ceratocephalinae and considered Ceratocephalidae incertae subfamiliae p. 315, ERBEN 17.

Proetus (subgen. n.) [undeser.] p. 115, ERBEN 19.

Proetus (*Proetus*) *affinis* (Bouček) p. 151, PŘIBYL & ERBEN 63.

Proetus ardmillanensis Begg p. 107 pl. v fig. 3, HARPER 25.

Proetus crassimarginatus Hall 1843 type material discussed in abstract p. 1302, STUMM 99.

Proetus dormitans Reinh. Richter 1863 referred with doubt to *P. (Piriproetus)* subgen. n. p. 202, ERBEN 16.

Proetus haldemani Hall p. 516, RICKARD 77.

Proetus (*Cornuproetus*) *neocorrugatus* sp. n. (nom. n. for *P. (C.) corrugatus* Erben 1952 non *P. corrugatus* van Ingen 1901) p. 449 Devonian (Lower) Germany (Harz), ERBEN Neues Jb. Geol. Mh. 1952 10.

Proetus (*Proetus*) *orbitatus* Barr. p. 157, *P. (P.) listei* Kegel p. 158, *P. (P.)* n. sp. *A* p. 158 pl. xvii fig. 1 text-fig. 1, *P. (P.) neglectus* Barr. text-fig. 2b, *P. (P.)* n. n. subsp. p. 160 pl. xvii fig. 2 text-fig. 2a, *P. (P.)* sp. *a*₁ and sp. *a*₂ p. 164 text-figs. 3b-a, *P. (Cornuproetus)* *midas* sp. n. *midas* subsp. n. for *P. (C.)* n. sp. Erben 1950 p. 165 pl. xvii figs. 3-5 text-figs. 4a-b, 5a-d, *P. (C.) m. leptus* subsp. n. p. 170 pl. xvii figs. 6-7 text-fig. 6a-b, *P. (C.) m.* n. subsp. p. 172 pl. xvii fig. 8 text-fig. 7, *P. (C.) corrugatus* sp. n. p. 173 pl. xvii fig. 9 text-fig. 8a-c, *P. (C.) pictus* (Gieb.) p. 177, *P. (C.) buchi buchi* (Hawle & Corda) p. 185, *P. (C.) b. taciturnus* Kegel p. 178 pl. xvii figs. 11-12 text-fig. 9a-c, *P. (C.) b. pernix* K. p. 183, *P. (C.) b. exanthemoides* subsp. n. p. 184 pl. xvii figs. 1-4 text-figs. 10a-b, 11a-c, *P. (C.) b. platykraspedon* subsp. n. p. 187 pl. xvii figs. 5-6, text-fig. 12a-b, *P. (C.) dufrénoyi* (H. & C.) *kahlebergensis* subsp. n. p. 190 pl. xvii fig. 8 text-fig.

13, *P. (C.) d.* n. subsp. text-fig. 14a-b, *P. (C.) d. planilimbatus* Erben p. 195, *P. (C.) trautensteinensis* E. p. 195, *P. (C.)* sp. β Kegel p. 196, *P. (C.) cacuminatus* (K.) p. 196; *P. (Přibylia)* *inaequicostatus* (Barr.) *limbuscostatus* E. p. 197, *P. (Lepidoproetus)* *kegeli obesus* E. p. 198, *P. (Eremiproetus)* *eremita* (Barr.) p. 198 pl. xviii fig. 9 text-fig. 15b, *P. (E.) e.* n. subsp. p. 199 pl. xviii fig. 10 text-fig. 15a, *P. (E.) natator* (B.) *confrater* E. p. 200, *P. (E.) papilio* E. p. 200, *P. (Piriproetus)* subgen. n. for type *P. (P.) pirus* sp. n. p. 215 pl. xix fig. 4 text-fig. 19, *P. (P. ?)* n. sp. *A* p. 208 pl. xix fig. 1 text-fig. 16, *P. (P.) kodon* sp. n. p. 210 pl. xix fig. 3 text-fig. 17, *P. (P.) ornatissimus* sp. n. p. 213 pl. xix fig. 2 text-fig. 18, *P. (P.) amblyops* sp. n. and cf. *a.* (Middle Devonian) p. 224 pl. xix figs. 5-6 text-figs. 23a-b, *P. (P. ?) dormitans* Reinh. Richter 1863 so referred p. 202, *P. (Unguliproetus)* *unguloides* (Barr.) forma *a* p. 216 pl. xviii figs. 11-12 text-fig. 20a-b, *P. (subgen. A [Erben]) nannus* E. p. 219 pl. xviii fig. 14 Devonian (Lower) Germany (Harz); *P. (Cornuproetus)* n. sp. *A* p. 227 text-fig. 24, *P. (C. ?)* sp. Herrmann 1909 p. 229 pl. xvii fig. 10 text-fig. 25 Devonian (Middle) Germany, ERBEN Neues Jb. Geol. Paläont. Abh. 94 2-3 1952.

Proetus richteri Kayser 1878 placed in synonymy of *Phacops* (*Phacops*) *fecundus degener* Barrande p. 328, ERBEN 16.

Proetus (*Proetus*) *tenuimargo* R. Richter 1909 lectotype chosen and figured p. 109 pl. iv figs. 25a-c, 26a-c, R. & E. RICHTER 76.

Proetus sp. (aff. *wohrmanni* F. Schmidt) p. 60, TJERNVIK 111.

Proetus sp. [compared with *P. intermedius* Barrande] pp. 201, 202 pl. vii figs. 16, 20, *P.* sp. [compared with *P. micropygus* B.] pp. 201, 202 pl. vii fig. 17a, b, CHAUBET 9.

Proetus sp. p. 54, YIN 121.

Prosaugia Ulrich & Resser 1933, considered that several of U. & R.'s spp. are probably synonyms, *P. misa* (Hall) with *P. halli* U. & R. and probably *P. concava* U. & R. and *P. resupinata* U. & R. in synonymy p. 192 pl. xxxviii figs. 1a-d, *P. ? ambigua* U. & R. p. 192 pl. xxxvii fig. 5, pl. xxxviii fig. 2, BELL, FENIAK & KURTZ 2.

Prosauckia misa (Hall) of which Ulrich & Resser's 1933 spp. *P. resupinata* and *P. concava* are considered synonyms p. 142, *P. ampla* U. & R. p. 143, *P. curvicostata* U. & R. with synonyms *P. alternata*, *P. transversa*, *P. demissa*, *P. subconica*, *P. subrecta* and *P. subaequalis* p. 142, *P. delectostata* U. & R. p. 143, *P. longa* U. & R. p. 143, *P. halli* U. & R. p. 143, *P. h.* var. *acclivis* (U. & R.) for *P. activis* U. & R. with synonym *P. miniscula* p. 144, *P. longicornis* U. & R. with synonym *P. magnicornuta* (non pl. 28 fig. 3) p. 143, *P. l.* var. *breviusculata* (U. & R.) for *P. brevisulcata* U. & R. with synonym *P. magnicornuta partim* (pl. 28 fig. 3) p. 143, *P. tuberculata* U. & R. with synonym *P. longula* p. 143, *P. valida* U. & R. p. 143, *P. beani* U. & R. with synonyms *P. granosa* and *P. dubia* p. 143, *P.* (? inserted in one place) *dilata* U. & R. with synonym *Saukia prima* p. 144; *P. lodensis* U. & R. referred to *Saukia* cf. *curvata* U. & R., *P. incerta* U. & R. to *Saukiella* (?) *incerta* (U. & R.), *P.* sp. undet. (pl. 28 figs. 10, 11) to *Saukia subrecta* U. & R., *P. berlinensis* U. & R. validity undetermined, *P. ? anomala* U. & R. not a *Prosauckia*, *P. ? ambigua* U. & R. referred to undescribed genus aff. *Taenicephalus*; *P.* sp. nov. [undescri.] p. 148, RAASCH 64.

Prosophiscus ? sp. revised assignation for *Cheirurus* ? sp. Sun 1931 pl. 3 fig. 10 p. 22, KOBAYASHI 40.

Protillaenus Raymond 1937—*Blountina* Lochman 1944 considered a junior subjective synonym, *P. marginatus* R. p. 474 pl. lvii figs. 14, 15 [see also Pygidium No. 3], SHAW 88.

Protolenus elegans marocana Neltner p. 76 pl. ii fig. 6, *P.* cf. *latouchi* Cobbold p. 76 pl. ii fig. 5, NELTNER & POCTEY 58.

Protolenus lusaticus Schwarzbach line-drawing reconstruction text-fig. 1, SCHWARZBACH 85.

Protopeltura Brügger 1882 referred to Pelturinae subfam. n. [quod vide] p. 195, HARRINGTON & LEANZA 26.

Protopeltura ? asperoensis sp. n. p. 102 pl. v figs. 2, 3 Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Provedoria starquistae Lochman types refigured p. 156 pl. xxi figs. 12, 22-28, LOCHMAN 49.

Pruvostina nicklesi [nom. nud.—gen. et sp. nondescr.] Cambrian (Lower) Morocco p. 480, HUPÉ 32.

Pruvostinoïdes [nom. nud.—gen. nondescr.] Cambrian (Lower) Morocco p. 481, HUPÉ 32.

Psalaspsis Resser 1937 regarded as sub-genus of *Idahoia* Walcott 1924 [quod vide] p. 190, BELL, FENIAK & KURTZ 2.

Pseudagnostus jeholensis sp. n. Cambrian (Upper) China p. 76 pl. vii figs. 13, 14, KOBAYASHI Trans. palaeont. Soc. Japan NS No. 3 1951.

Pseudagnostus josepha (Hall) p. 196 pl. xxxii figs. 4a, b, pl. xxxiii fig. 1, *Aagnostus parilis* Hall 1863 thought to be possibly based on abraded pygidia of *P. josepha*, BELL, FENIAK & KURTZ 2.

Pseudobasilicus nobilis (Barr.) p. 199, CHLUPÁČ 11.

Pseudobasilicus radiatus (Salter) see *Asaphus radiatus* Salter 1866.

Pseudobasilicus sp. to include *Asaphus radiatus* Salter 1866 *partim* (specimens from Collon, Eire) p. 108 pl. v fig. 2, HARPER 25.

Pseudokainella lata (Kobayashi) revised identification of *Andesaspis argentinensis* K. *partim* [pygidium only] p. 196, HARRINGTON & LEANZA 26.

Pseudolevinia see *Eteraspis*.

Pseudonileus gen. n. [Symphysuridae] for type *Nileus holoubkovensis* Růžicka [error pro Růžicka] Tremadoc Czechoslovakia, KOBAYASHI J. Fac. Sci. Tokyo Univ. [2] 8 1951.

Pseudosalteria Raymond 1924 considered to be based on an immature specimen, removed from Endymionidae Raymond 1920 p. 5, WHITTINGTON 118.

Pseudosaukia [spelt *Pseudosaukia* on pl. expl.] gen. n. [similar to *Saukia*] for type *P. suni* sp. n. Cambrian (Upper) China (Jehol) p. 78 pl. vii figs. 8-11 text-fig. 2, KOBAYASHI Trans. palaeont. Soc. Japan NS No. 3 1951.

Pseudosaukia Kobayashi 1951 non Rasetti 1944 renamed *Saukioides* [quod vide] p. 154, KOBAYASHI 42.

Pseudosaukianda [nom. nud.—gen. nondescr.] Cambrian (Lower) Morocco p. 481, HUPÉ 32.

Pseudosphaerexochus praecursor Regnéll p. 63, TJERNVIK 111.

Psilacella gen. n. [Cyclopygidae] for type *P. trirugata* sp. n. Ordovician (Upper) Britain (Scotland) p. 308 pl. xxxii figs. 1-5, WHITTARD Bull. Brit. Mus. (nat. Hist.) Geol. 1 10 1952.

Psilocephalina Hsü discussed p. 71, *P. lubrica* H. text-fig. 6, *P. Stubblefield 1951 non* Hsü 1948 renamed *Psilocephalinella* nom. n. p. 72, KOBAYASHI 40.

Psilocephalinella gen. n. [type not specially mentioned] nom. n. for *Psilocephalina* Stubblefield 1951 (*non* Hsü 1948) which was proposed as nom. n. for *Psilocephalus* Salter 1866 *non* Swainson 1839 p. 72, KOBAYASHI J. Fac. Sci. Tokyo Univ. [2] 8 1951.

Psilocephalinella Kobayashi 1951—*Borthaspis* Stubblefield 1951 a junior synonym p. 155 footnote, WHITTARD 115.

Ptarmigania Raymond 1928 analysed and differences from *Dolichometopsis* Poulsen listed, *P. hispinosa* sp. n. Cambrian (Middle) Mexico (Sonora) p. 133 pl. xxii figs. 1-9, LOCHMAN Smithsonian. misc. Coll. 119 1 1952.

Pterygometopinae see *Isalaur*.

Ptychagnostus (*Triplagnostus*) *praecurrens* (Westergård) recorded from Norway (Ringsaker) p. 26, HENNINGSMOEN 31.

Ptychagnostus (*Triplagnostus*) *praecurrens* (Westergård 1936) p. 229 WAERN 112.

Ptychaspis Hall 1863 type taken as *P. miniscaensis* (Owen) selected by Miller 1889, *P. m.* (O.) p. 193 pl. xxxv figs. 3a, b, pl. xxxvi figs. 1a-f, *P. granulosa* (Owen) *non* Hall 1863 p. 193 pl. xxxiv figs. 6a, b, pl. xxxv figs. 1a-e, *P. striata* Whitfield p. 193 pl. xxxv figs. 2a-f, *P. tuberosa* sp. n. Cambrian (Upper) U.S.A. (Wisconsin) to include *P. g.* Hall 1863 (*non* Owen) *partim* and *P. s.* Walter 1924 (*non* Whitfield) *partim* p. 193 pl. xxxvi figs. 3a-d, pl. xxxvii fig. 1, FENIAK *in* BELL, FENIAK & KURTZ J. Paleont. 26 2 1952.

Ptychoparia anderseni sp. n. Cambrian (Middle) Norway (Rogaland) p. 17 pl. ii figs. 1, 2, HENNINGSMOEN Norsk geol. Tidsskr. 30 1952.

Ptychoparia attleboroensis Cobbold [recte Shaler & Foerste] from Morocco p. 77, NELTNER & POCTEY 58.

Ptychoparia bretonensis sp. n. Cambrian (Middle) Canada (Nova Scotia) p. 97 pl. v figs. 12-16, HUTCHINSON Mem. geol. Surv. Can. No. 263 1952.

Ptychoparia fichti Walcott p. 129 figs. 10, 11, ALMELA & REVILLA 1.

Ptychopyge applanata Ang. p. 683, NILSSON 60.

Ptychopyge herambensis sp. n. p. 166 pl. iii figs. 1-8, *P. minor* sp. n. p. 168 pl. iv figs. 2, 5, 8, 9, *P. excavato-zonata* (Angelin) of which *P. cincta* Brøgger 1886 is a synonym p. 169 pl. iv fig. 1 (holotype refigured), *P. sp.* p. 169 pl. iv fig. 7 Ordovician (Lower) Norway (Hedmark), SKJESETH Norsk geol. Tidsskr. 30 1952.

Ptychopyge orientalis p. 29 pl. ii figs. 3, 4, *P. neichiensis* p. 30 pl. ii figs. 5, 6 spp. n. Ordovician China, KOBAYASHI J. Fac. Sci. Tokyo Univ. [2] 8 1951.

Ptychopyge sp. p. 60, TJERNVIK 111.

Pyraustocranium Ross 1951 referred with doubt to Leptoplastinae Angelin p. 195, HARRINGTON & LEANZA 26.

Quadraticephalus Sun 1924 em. Kobayashi 1933 considered distinct from *Changia* S. 1924, Resser's 1942 reference of *Anomocare bianos* Walcott considered doubtful, *Q. pyrus* K. 1933 from Jehol p. 77, KOBAYASHI 41.

Quadraticephalus manchuricus Kobayashi pl. ii figs. 6, 7, SHIKAMA 89.

Radiolichas Reed 1923 discussed and referred to Acanthopyginae, *R. araneus* (Holzapfel 1895) p. 168 pl. ix figs. 10-11 text-figs. 10-11, PŘIBYL & ERBEN 63.

Raphiophorus tenellus (Barr.) p. 199, CHLUPÁČ 11.

Raymondaspis see also "*Holometopus*."

Raymondaspis limbatus (Angelin 1854) including Wiman 1906 in synonymy p. 171 pl. iv figs. 16, 17, 19, 20, 21, SKJESETH 91.

Redlichia chinensis Walcott of which *R. manchuriensis* and *R. murakamii* Resser & Endo 1937 are considered synonyms (based on different growth-stages) p. 132, ontogeny described pp. 104-132 pl. i figs. 1-16, pl. ii figs. 1-13, pl. iii figs. 1-9, pl. iv figs. 1-12, pl. v figs. 1-6, text-figs. 2a, b, 3 (reconstruction), 4, 5a, b, 7, 8, KOBAYASHI & KATO 43.

Redlichia manchuriensis Resser & Endo pl. i fig. 14, SHIKAMA 89.

Redlichidae considered more closely related to Dolerolenidae than to Olenellidae p. 134, KOBAYASHI & KATO 43.

Reedocalymene gen. n. [Calymenidae] for type *Calymene unicornis* Reed Ordovician China (Yunnan) p. 45 pl. iv figs. 12-14 (restorations), KOBAYASHI J. Fac. Sci. Tokyo Univ. [2] 8 1951.

Reedolithus quebecensis [Laverdière & Stäuble 1951 sp. nondescr.] p. 304 text-fig. 9, STÄUBLE 94.

Reedolithus richthofeni (Kayser) p. 48 pl. iii fig. 8, KOBAYASHI 40.

Remopleurides colbii Portlock p. 108, *R. dorso-spinifer* P. p. 108, *R. lateri-spinifer* P. p. 109, *R. longi-costatus* P. with which *R. asteroides* Reed 1935 may be identical p. 109, *R. obtusus* Salter referred to *Robergia*, REED 69.

Remopleurides aff. *nanus* V. Leucht p. 157 pl. v figs. 4a, 6, 10 (larval cranidium), SKJESETH 91.

Remopleurides striatulus Walcott 1875 type of *Hypodiceranotus* gen. n. [quod vide], lectotype refigured, WHITTINGTON 117.

Remopleurides from New South Wales pp. 115, 117, STEVENS 95.

Remopleurides sp., BOROVNIKOV 5.

Remopleurides sp. p. 90, HARPER 25.

Remopleurides sp. p. 691, NILSSON 60.

Remopleurides sp. p. 56, TJERNVIK 111.

Resserops falloti, *R. uncioculatus*, *R. rudemae*, *R. brevilimbatus* [nomina nuda—**spp. nondescr.**] Cambrian (Lower) Morocco p. 480, HUPÉ 32.

Resserops resserianus [recte *resserianus*] Richter from Lower Cambrian of Morocco p. 67 pl. vii fig. 1, NELTNER & POCTEY 58.

Rhenops see *Asteropyge*.

Robergia obtusa (Salter) holotype described p. 109, REED 69.

Robergia striata Endo p. 20, KOBAYASHI 40.

Růžičkaia Přibyl considered synonym of *Lobocephalina* Růžička, HAVLÍČEK & ŠNAJDR 30.

Saltaspis gen. n. [Olenidae (Pelturinae)] for type *Jujuyaspis steinmanni* Kobayashi 1936 Ordovician (Tremadoc) Argentina p. 198 pl. i figs. 1, 2, 7, HARRINGTON & LEANZA Rev. Asoc. geol. argent. 7 3 1952.

Salteria Thomson 1864 placed in *Endymionidae* Raymond 1920 p. 5, WHITTINGTON 118.

Sao hispánica R. & E. Richter [**sp. nondescr.**] p. 706, MELÉNDEZ & HEVIA 53.

Saukia acuta Ulrich & Resser with the following of U. & R.'s 1933 spp. as synonyms *S. obtusa*, *S. whitfieldi partim* (pl. 29 fig. 14), *S. retusa* & *S. parva* p. 143, *S. sublonga* U. & R. p. 143, *S. lodensis* (Whitfield) with synonyms *S. angusta*, *S. modesta*, *S. whitfieldi partim* (non pl. 29 fig. 14), *S. ornata partim* (pl. 30 fig. 3), *S. laevigenata*, *S. subgraciosa*, *S. separata* and *S. rudis* p. 143, *S. subrecta* U. & R. *partim* (non pl. 29 fig. 20—referred to cf. *Eurekia*) with synonyms *S. nitida*, *S. separatoidea* and *S. cf. whitfieldi* (pl. 29 fig. 18) p. 144, *S. curvata* U. & R. p. 144, *S. cf. c.* for *Prosaukia lodensis* U. & R. p. 143, *S. imperatrix* U. & R. p. 144; *S. ornata* U. & R. *partim* (pl. 30 fig. 4) referred to undet. cf. *Eurekia*, *S. tumida* U. & R. and *S. granilineata* U. & R. not recognised, *S. lodensis* U. & R. (non W.) *partim* (pl. 31 fig. 26) relation undet., *S. rudis hybrida* U. & R. referred to cf. *S. acuta*, *S. prima* U. & R. to *Prosaukia* ? *dilata*; cf. *S. acuta* for *Tellerina bigeneris* U. & R., RAASCH 64.

Saukianda R. & E. Richter recorded from Lower Cambrian of Morocco p. 481, HUPÉ 32.

Saukianda andalusiae R. & E. Richter original attribution of pygidium questioned p. 74, NELTNER & POCTEY 58.

Saukiidae fam. n., Ulrich & Resser's Saukiinae being raised to family level p. 140, RAASCH Trans. Ill. Acad. Sci. 44 (for 1951) 1952.

Saukiella pepinensis Owen of which the following Ulrich & Resser 1933 spp. and vars. are considered synonyms *S. typicalis*, *S. t. convexa*, *S. t. subrecta*, *S. subgracilis*, *S. s. hybrida*, *S. s. parallela* and *S. ampla* p. 144, *S. pyrene* (Walcott) with synonyms *S. signata* and *S. norwalkensis* et vars. *partim* (pl. 36 figs. 5-11, 15-25) p. 145, *S. minor* U. &

R. with synonyms *S. simplex* and *S. conica* p. 145 (*S. transitia* a synonym of *S. c.* p. 145), *S. indenta* U. & R. *partim* (non pl. 35 figs. 26-30) with synonyms *S. pyrene limbata*, *S. i. intermedia* and *S. norvalkensis* et vars. *partim* (pl. 36 figs. 12-14, 26-27) p. 145, *S. frontalis* U. & R. with *S. indenta partim* (pl. 35 figs. 26-30) in synonymy p. 145; *S. ? weidmani* U. & R. referred to *Tellerina ? leucocis* (Walcott) p. 145, RAASCH 64.

Saukinae [recte Saukiinae] Ulrich & Resser raised to family level p. 140, U. & R.'s 1933 spp. analysed p. 142, RAASCH 64.

Sauikoides gen. n. (nom. n. for *Pseudosaukia* Kobayashi 1951 non Rasetti 1944) p. 154, KOBAYASHI Trans. palaeont. Soc. Japan NS No. 5 1952.

Scutellum (*Scutellum*) *bischofi* (Giebel) p. 255 text-figs. 33a-b, *S. (S.) cf. viator* (Barrande) p. 259 pl. xxii figs. 1-2 text-figs. 34a-b, *S. (S.) angusticeps* (B.) *inermis* (B.) p. 261 pl. xxi fig. 6 text-figs. 35a-b, *S. (S.) a. pycnochondrum* Kegel p. 263, *S. (S.) analogum* Prantl *mendax* subsp. n. p. 265 pl. xxi figs. 1-5 text-figs. 36a-c, 37a-d compared with *S. (S.) a. a. P.* and *S. (S.) furciferum* (Hawle & Corda) p. 270, *S. (S.)* sp. [ex aff. *analogum* P.] p. 271, *S. (S.)* sp. [ex aff. *caelebs* (B.)] p. 272 pl. xxi fig. 7 text-fig. 38, *S. (S.) roemerii* (Kayser) holotype refigured p. 274 pl. xxi fig. 8, *S. (Thysanopeltis)* H. & C. discussed, *S. (T.) speciosum* H. & C. p. 277 pl. xxii fig. 3 text-figs. 40a-b, *S. (T.) s. speciosum* text-fig. 39a, *S. (T.) clementinum* (B.) text-fig. 39b, *S. (T.) trutati* (Barrois) text-fig. 39c, *S. (Kolihapeltis)* Prantl & Přibyl discussed, *S. (K.) parabolinum* (Barrande) text-fig. 41c, *S. (K. ?) brevifrons* (B.) *amphichondrum* (Kegel) 1926 *partim* (pl. 2 figs. 1-2; rest = n. sp. ?) p. 281 Devonian (Lower) Germany (Harz); *S. (Scutellum) billingsi* (B.) *latum* subsp. n. p. 283 pl. xx figs. 14-15 text-figs. 42a-b Devonian (Middle) Germany (Harz), ERBEN Neues Jb. Geol. Paläont. Abh. 94 2-3 1952.

Scutellum (*Eobronteus*) *hibernicum* (Portlock) p. 115 pl. v fig. 12, REED 69.

Seleneceme Clark 1924 removed from Endymionidae Raymond 1920 to *Selenecemidae* fam. n. [quod vide] p. 4, *S. propinqua* Clark 1924 holotype refigured p. 4 pl. ii fig. 13, WHITTINGTON 118.

Selenecemidae fam. n. (nom. n. for *Alsataspidae* Turner 1940) for *Seleneceme* Clark 1924 of which *Alsataspis* Turner 1940 is considered a subjective synonym, placed in *Cryptolithidea* Richter p. 4, WHITTINGTON J. Paleont. 26 1 1952.

Selenoharpes excavatus (Linnarsson) p. 59, TJERNVIK 111.

Selenopeltis buchi (Barrande) *buchi* text-figs. 43 a, a₁ and d, ERBEN 16.

Selenopeltoides Prantl & Přibyl considered very close to *Orphanaspis* P. & P., ERBEN 16.

Selenopeltoides Prantl & Přibyl 1949 referred to *Dicranurinae* p. 310 text-fig. 3, *S. hawlei* (Barrande) text-figs. 1e, 2c, ERBEN 17.

Serrodiscus R. & E. Richter 1941 discussed and *Paradiscus* Kobayashi 1943 referred to synonymy p. 444, *S. speciosus* (Ford) 1873 lectotype chosen and figured with paratype p. 444 pl. lii figs. 1-11, *S. bellimarginatus* (Shaler & Foerste) 1888 figured with syntypes of mut. *insularis* Matthew 1899 which is referred to synonymy p. 445 pl. lii figs. 12-17, RASSETTI 65.

Shumardia glacialis Billings 1865 type of *Anisonotella* nom. n. [quod vide] p. 4, WHITTINGTON 118.

Shumardia nericiensis Wiman p. 56, TJERNVIK 111.

Shumardia pusilla (Sars) including in synonymy *Asaphellus homfrayi* var. Matthew 1901 *partim* (pl. 18 fig. 10d) refigured p. 95 pl. v fig. 10, HUTCHINSON 35.

Skreiaspis spinosus (Jahn) p. 296 pl. i fig. 5, HAVLÍČEK & ŠNAJDR 30.

Solenopleura bretonensis Matthew of which *S. rushtonensis* Cobbold [& Pocock] is tentatively cited as a synonym p. 99 pl. vi figs. 1, 2, HUTCHINSON 35.

Solenopleura cristata Linnarsson recorded from Norway (Ringsaker) p. 26, HENNINGSMOEN 31.

Solenopleura riberoi Barrande p. 706, MELÉNDEZ & HEVIA 53.

Sombrerella mexicana Lochman types refigured p. 107 pl. xx figs. 1-4, LOCHMAN 49.

Sonoraspis gen. n. [compared with *Glossopleura* and *Anoria*] for type *S. torresi* sp. n. p. 53 pl. xiv figs. 1-4, *S. gamezi* sp. n. p. 54 pl. xiv figs. 5, 6 Cambrian (Middle) Mexico (Sonora) [see also *Glossopleura* sp. Lochman based on same specimens], STOYANOW Smithsonian. misc. Coll. 119 1 1952.

Sphaerocoryphe globiceps (Portlock) Begg's 1940 view on generic reference accepted p. 121, REED 69.

Sphaerophthalmoides gen. n. [Olenidae] for type *Leptoplastus latus* Matthew p. 90, *S. ornatus* sp. n. Cambrian (Upper) Canada (Nova Scotia) p. 91 pl. iv figs. 18-25, HUTCHINSON Mem. geol. Surv. Can. No. 263 1952.

Sphaerophthalmus alatus (Boeck) including in synonymy *S. a.* var. *canadensis* Matthew 1894 *partim* (broad form to which var. is restricted pl. 17 figs. 11a, b) p. 88 pl. iv figs. 12-15, *S. major* Lake including in synonymy *S. a.* var. c. M. 1894 *partim* (narrow form pl. 17 figs. 12 a, b) p. 90 pl. iv figs. 16, 17 a-c, HUTCHINSON 35.

Spinagnostus? [query omitted on pl. expl.] *hornillensis* sp. n. p. 8 pl. fig. 5 Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Spinodiscus Kobayashi 1943 considered a subjective synonym of *Eodiscus* Hartt 1884 as type *Microdiscus punctatus* Salter 1864 is referred to *Eodiscus* p. 438, *S. matthewi* K. 1943 considered a synonym of *Eodiscus scanicus* [quod vide] p. 448, RASETTI 65.

Stenelymus kobayashii Raymond 1937 holotype refigured p. 480 pl. lvii figs. 33, 34, SHAW 88.

Stenochilina Ulrich and *Triarthropsis* U. discussed, excluded from Olenidae and considered possibly related to Komaspidae p. 194, HARRINGTON & LEANZA 26.

Stenopilus pronus Raymond 1924 presence in Rockledge Conglomerate not confirmed p. 482, SHAW 88.

Stigmacephalus flexifrons sp. n. Cambrian (Upper) U.S.A. (Minnesota) p. 194 pl. xxxvii figs. 6a, b, FENIAK in BELL, FENIAK & KURTZ J. Paleont. 26 2 1952.

Stigmacephalus similis sp. n. Cambrian (Upper) U.S.A. (Minnesota) p. 186 pl. xxxi figs. 8a-c, KURTZ in BELL, FENIAK & KURTZ J. Paleont. 26 2 1952.

Strenuella rasettii [nom. nud.—sp. nondescr.] Cambrian (Lower) Morocco p. 481, HUPÉ 32.

Strenuella strenua (Billings) from Nova Scotia p. 78 pl. ii fig. 11, pl. iii figs. 1-6, HUTCHINSON 35.

Strenuella strenua Billings from Morocco p. 67 pl. v fig. 9, *S. spinosa* Cobbold p. 67 pl. v fig. 8, NELTNER & POCTEY 58.

Strotocephalus arrojensis sp. n. p. 157 pl. xxi figs. 29-34 Cambrian (Middle) Mexico (Sonora), LOCHMAN Smithsonian. misc. Coll. 119 1 1952.

Stygina latifrons (Portlock) p. 115, REED 69.

Suakid [sic]-pygidium gen. and sp. undt. p. 79 pl. vii fig. 12, KOBAYASHI 41.

Symphysops see *Cyclopyge*.

Symphysops subarmata (Reed) p. 91, HARPER 25.

Symphysuridae see *Paranileus* and *Pseudonileus* gen. n.

Symphysurina from Arctic Archipelago p. 645, KURTZ, McNAIR & WALES 45.

Symphysurus breviceps Angelin p. 54, *S. angustatus* Sars & Boeck p. 56, TJERNVIK 111.

Symphysurus palpebrosus (Dalm.) p. 683, NILSSON 60.

Symphysurus (*Kodymaspis*) *puer* (Barr.) p. 203, SVOBODA & PRANTL 102.

Symphysurus sp. p. 171 pl. iv fig. 13, SKJESETH 91.

Synhomalonotus kayseri sp. n. for *Calymene* sp. Kayser in Richthofen 1883 pl. 3 fig. 5 Ordovician China p. 41 pl. iii fig. 7, S. ? sp. for *C. tingi* Sun 1931 *partim* p. 42, KOBAYASHI J. Fac. Sci. Tokyo Univ. [2] 8 1951.

Syspacephalus asperoensis sp. n. p. 102 pl. v figs. 4, 5 Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Taenicephalus altus Nelson with *T. shumardi* Walcott 1925 (non Hall) pl. 17 figs. 15-17 in synonymy p. 187 pl. xxxi fig. 6, BELL, FENIAK & KURTZ 2.

Taihungshania brevis Sun 1931 amended description, lectotype chosen on explanation of plate, *Iliaenus chichiangensis* Sun referred to synonymy p. 14 pl. i figs. 1-6, *T. miqueli* (Ber-

geron) hypostome pl. iv fig. 6, restoration pl. v fig. 3, *T. ? parva* Hsü referred to *Wutingia* p. 76, KOBAYASHI 40.

Taihungshania ovata sp. n. Ordovician (Lower) China p. 122 pl. ii fig. 17, CHANG Bull. geol. Soc. China 29 1-4 1950.

Taihungshanid cranidium immature p. 14 pl. iv figs. 4, 5, KOBAYASHI 40.

Taihungshaninae referred to as subfamily of Asaphidae and enlarged to include *Omeipsis* gen. n. p. 13, KOBAYASHI 40.

Taishania taianensis Sun revised identification of *Mansuyia orientalis* Endo 1939 non S. p. 147, KOBAYASHI 42.

Telephina gen. n. [Telephinidae] (nom. n. for *Telephus* Barrande 1850 non Gisl 1848) for type *Telephus fractus* B. p. 438, holotype of *T. fracta* refigured pl. ii figs. 5, 6 Ordovician (Upper) Bohemia, MAREK Sborn. geol. Ust. čsl. 19 (Pal.) 1952.

Telephinidae fam. n. (nom. n. for Telephidae Angelin 1854) p. 438, MAREK Sborn. geol. Ust. čsl. 19 (Pal.) 1952.

Telephus Barrande 1850 non Gisl 1848 renamed *Telephina* nom. n. [quod vide] p. 438, MAREK 52.

Telephus granulatus Ang. p. 691, NILSSON 60.

Tellerina granistriata Ulrich & Resser p. 145, *T. crassimarginata* (Whitfield) of which the following Ulrich & Resser 1933 spp. are considered synonyms *T. curta*, *T. strigosa*, *T. recurva* and *T. norwalkensis* (non pl. 45 fig. 14—not identifiable) p. 146, *T. gothamensis* U. & R. p. 146, *T. ? leucosia* (Walcott) with synonyms *T. l. var.*, *T. l. parallela*, *T. extrema* and *Saukiella ? weidmani* p. 146; *T. bigeneris* U. & R. referred to cf. *Saukia acuta*, *T. lata* to *T. cf. crassimarginata*; *T. sp. nov.* [undescribed] p. 148, RAASCH 64.

Termierella brevifrons, *T. latifrons*, *T. longa* [nomina nuda—gen. et spp. nondescript.] Cambrian (Lower) Morocco p. 481, HUPÉ 32.

Theodenisia Clark 1948 considered a synonym of *Acheilus* Clark 1924 [quod vide] p. 467, SHAW 88.

Thysanopeltis see *Scutellum*.

Törnquistia Reed 1896 possible homonymy with *Törnquistia* Paeckelmann 1930 (Brachiopoda) discussed, MUIR-WOOD 57.

Törnquistia sp. indet. p. 643 text-figs. 5, 6, FREDERICKSON & POLLACK 20.

Tretaspis see also *Trinucleus*.

Tretaspis bucklandi (Barr.), *T. sp.* p. 199, CHLUPÁČ 11.

Tretaspis bucklandi (Barr.) p. 8, CHLUPÁČ 12.

Tretaspis canadensis [sp. nondescript.] Ordovician (Upper) Canada (Quebec) p. 304 text-fig. 10, STÄUBLE Nat. canad. 79 10-11 1952.

Tretaspis nováki sp. n. Ordovician (Upper) Bohemia p. 184 pl. i figs. 1-8, pl. ii figs. 1-6, pl. iii figs. 1, 2, CHLUPÁČ Sborn. geol. Ust. čsl. 19 (Pal.) 1952.

Tretaspis sp. p. 93, HARPER 25.

Triarthrinae Ulrich emend. considered to include *Triarthrus* Green, *Angelina* Salter, *Parabolinella* Brögger and *Plicatolina* Shaw p. 194, HARRINGTON & LEANZA 26.

Triarthropsis Ulrich and *Stenochilina* U. discussed, excluded from Olenidae and considered possibly related to Komaspidae p. 194, HARRINGTON & LEANZA 26.

Triarthrus angelini Linnarsson p. 61, TJERNVIK 111.

Triarthrus belli Matthew holotype refigured p. 83 pl. iii fig. 15, HUTCHINSON 35.

Trigryops Kobayashi 1940 considered a synonym of *Dionide* Barrande 1847 p. 8, WHITTINGTON 118.

Trinodus glabratus (Angelin 1854) p. 157 pl. iv fig. 18 [*T. aff. g.* on expl. pl.], *T. sp.* p. 146 (listed), SKJESETH 91.

Trinodus glabratus (Angelin), *T. ingricus* (F. Schmidt), *T. lentiformis* (A.) p. 56, TJERNVIK 111.

Trinodus tardus (Barr.) p. 199, CHLUPÁČ 11.

Trinodus tardus (Barr.) p. 8, CHLUPÁČ 12.

Trinodus tardus (Hawle and Corda) pp. 91, 93, HARPER 25.

Trinucleoides Raymond 1917 placed in *Dionididae* Gürich 1907 p. 10, WHITTINGTON 118.

Trinucleus from New South Wales pp. 115, 117, STEVENS 95.

Trinucleus bronni Sars & Boeck p. 691, NILSSON 60.

Trinucleus concentricus var. *arcuatus* Smith see *T. (Cryptolithus) elongatus* Portlock, *T. c.* var. *portlockii* Salter see *T. (C.) portlockii*.

Trinucleus (Cryptolithus) elongatus Portlock 1843 holotype redescribed, Portlock's pl. IB fig. 6 considered conspecific, relations with *Broeggerolithus* Bancroft discussed p. 95, *T. (C.) elongatus* var. *arcuatus* Smith 1907 lectotype chosen and redescribed, considered possibly synonymous with *T. elliptifrons* Olin 1906 p. 97, *T. (C.) portlockii* Salter lectotype chosen and redescribed p. 99, *T. (C.) portlockii* var. *sulcifera* var. n. p. 101 pl. v fig. 7 and var. *gibbosa* var. n. to include possibly *T. fimbriatus* Portlock (non Murchison) pl. IB figs. 11-13 p. 102 pl. v fig. 8, *T. (C.)* sp. revised identification of *T. concentricus* var. *portlockii* Smith 1907 (non Salter) *partim* pl. 8 fig. 1 p. 103 [? description] Ordovician Ireland (Tyronne), REED Proc. R. Irish Acad. 55B 3 1952.

Trinucleus (Tretaspis) seticornis (Hisinger) p. 103, *T. (T.)* cf. *cerioides* Angelin var. *sortita* Reed p. 104, REED 69.

Trinucleus welleri revised assignment for *Cryptolithus w.* Endo 1932 p. 47, referred to *Edgellia* p. 73, KOBAYASHI 40.

Triplagnostus see *Ptychagnostus*.

Triplagnostus ? *chipiquensis* sp. n. see *Culipagnostus* gen. n.

Triplagnostus cf. *lomondensis* Howell p. 70 pl. i fig. 5, HUTCHINSON 35.

Triplagnostus (many spp.) p. 76 pl. i figs. 3, 4, LAVERDIÈRE 46.

Tropidocoryphe latens (Barrande) p. 220 pl. xviii fig. 13 text-fig. 21, T. sp. (n. sp. ?) for *T. flicostata* Lieber 1917 non Novák p. 231 pl. xviii fig. 15, ERBEN 16.

Tsinania Walcott 1914 genus discussed p. 148, *T. canens* Walcott 1905 of which are considered synonyms *Illaeonurus cerea* W. 1905, *I. pagoda* Sun 1922, *T. peipingensis* S. 1935, *T. acuta* S. 1935, *T. vulgaris* Resser & Endo 1937 *partim*, *T. convexa* R. & E.

1937 p. 150 pl. xiii figs. 1-8 text-fig. 2, *T. humilis* Kobayashi 1933 with *T. vulgaris* R. & E. 1937 *partim* as synonym p. 152 pl. xiii figs. 9-11, *T. scrinium* Raymond 1937 generic reference uncertain, *T. longicephala* Resser & Endo may belong to *Dictyites* p. 149, KOBAYASHI 42.

Tsinania canens (Walcott) p. 75, KOBAYASHI 41.

Tsinania canens (Walcott) pl. ii figs. 14, 15, SHIKAMA 89.

Tsinaniidae Kobayashi 1931 considered to comprise *Tsinania*, *Dictyites*, *Dictyella* and possibly *Jubileia* K. 1938 and *Esseigania* K. 1943 p. 148, KOBAYASHI 42.

Tsinaniidae Kobayashi 1935—*Maryvillia* Walcott 1916 removed to *Asaphiscinae* K. 1935 p. 470, SHAW 88.

Ucebia Walcott 1924 retained as subgenus of *Kingstonia* Walcott 1924 p. 471, *U. lata* Raymond 1937 selected as type of *Catillicephala* Raymond 1938 [quod vide] in preference to its synchronous synonym *Cephalocoelia ovoides* R. 1937 on the basis of better type material p. 462, SHAW 88.

Unguliproetus see *Proetus*.

Viñakainella subgen. n. of *Ory[e]tocephalus* [recte *Oryctocephalus*] p. 97, *V. asperoensis* sp. n. pp. 97, 117 pl. i fig. 14, pl. iii figs. 9-14, 18, text-fig. 5, *V. pentacantha* sp. n. p. 100 pl. iii figs. 16, 17, *V. spinulosa* sp. n. p. 100 pl. iii figs. 19-21 text-fig. 6, *V. ?* (hypostome) pl. iii fig. 15 Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1-4 1952.

Walcottaspis vanhornei (Walcott) p. 142, RAASCH 64.

Wanneria jacqueti sp. n. Cambrian (Lower) Morocco p. 74 pl. vi figs. 1-5, NELTNER & POCTEY Notes Serv. Min. Maroc No. 74 2 1949.

Wanneria mexicana prima sp. et var. n. p. 96 pl. xviii figs. 1-3, *W. walcottana* (Wanner) *buelnaensis* var. n. p. 98 pl. xix figs. 1-6, *W. ?* sp. undet. p. 99 pl. xix figs. 7, 8 Cambrian (Lower) Mexico (Sonora) [*W. m.* p. also from Canada (B.C.)], LOCHMAN Smithsonian. misc. Coll. 119 1 1952.

Wanneria walcottanus (line drawing) text-fig. 1h, TASCH 103.

Weberides Reed 1942 see *Cummingella* Reed 1942.

Welleraspis sp. p. 479 pl. lvii figs. 18–20 [see also *Pygidium* No. 1], SHAW 88.

Westergardia Raymond 1924 referred to *Pelturinae* subfam. n. [quod vide] p. 195, HARRINGTON & LEANZA 26.

Weymouthia Raymond 1913 discussed, *Delgadoia* Vogdes 1917 *Delgadodiscus* Kobayashi 1935 and *Alemtejoia* K. 1943 considered synonyms, *W. nobilis* (Ford) 1872 p. 446 pl. lii fig. 18, RASETTI 65.

Whittingtonia Prantl & Přibyl 1949 referred provisionally to *Ceratocephalinae* p. 309, *W. bispinosa* (McCoy) text-fig. 1c, ERBEN 17.

Wilbernia expansa Frederickson p. 187 pl. xxxii figs. 3a–c, *W. halli* Resser p. 188 pl. xxxii figs. 5a, b, *W. explanata* (Whitfield) with *W. hudsonensis* Resser 1937 in synonymy p. 195 pl. xxxiv figs. 4a–e, *W. cf. pero* (Walcott) p. 195 pl. xxxiv figs. 5a–c, BELL, FENIAK & KURTZ 2.

Xenocheilos cf. minutum Wilson p. 185 pl. xxx fig. 2, BELL, FENIAK & KURTZ 2.

Zacanthoides crucensis sp. n. p. 106 pl. vi fig. 3, *Z. ? ferula* [Leanza] p. 114, *Z. sp.* p. 117 Cambrian (Middle) Argentina (Mendoza), RUSCONI Rev. Mus. Hist. nat. Mendoza 6 1–4 1952.

Zacanthoides holopygus Resser corrections to original description, Walcott's conclusion that species represents young *Z. idahoensis* W. considered not yet disproved p. 144, *Z. aff. Z. holopygus* R. from Mexico p. 143 pl. xxx figs. 11–17, LOCHMAN 49.

Zacanthoides trispinus sp. n. Cambrian (Middle) Argentina (Mendoza) p. 187 pl. iv fig. 2, RUSCONI Rev. Mus. Hist. nat. Mendoza 2 3 1948.

Cf. Middle Cambrian trilobites p. 159 pl. xxxi fig. 4 Cambrian (Middle) Mexico (Sonora), LOCHMAN 49.

Free check No. 1 [might belong to *Meteoraspis ? minuta* or *Coosia ? sp.*] p. 481 pl. lvii fig. 39, SHAW 88.

Gen. indet. Ordovician Bohemia [see *Bohemilla* Barrande 1872] p. 318 pl. xxxiii figs. 13–16, WHITTARD 114.

Genus and species undetermined 1 p. 108 pl. xxi figs. 13, 14 Cambrian (Lower) Mexico (Sonora), LOCHMAN 49.

Genus and species undetermined 2 p. 158 pl. xxv fig. 22 Cambrian (Middle) Mexico (Sonora), LOCHMAN 49.

Genus and species undetermined 3 p. 159 pl. xxxi fig. 7 Cambrian (Middle) Mexico (Sonora), LOCHMAN 49.

Incertae sedis [cranium] p. 58 pl. xiv fig. 9, STOYANOW 97.

Pygidium No. 1 [assigned to *Welleraspis* sp.] p. 480 pl. lvii fig. 21, SHAW 88.

Pygidium No. 2 [provisionally placed with *Crepicephalidae*] (= Undetermined trilobite pygidium Rasetti 1946) p. 476 pl. lvii figs. 31, 32, SHAW 88.

Pygidium No. 3 [assigned to *Protillaenus marginatus* Raymond] revised identification of *Maryvillia triangularis* Raymond 1937 (*non* Raymond 1924) p. 474 pl. lvii figs. 16, 17, SHAW 88.

Pygidium No. 4 [provisionally associated with *Coosia ? sp.*] revised identification of *Homodictya imitatrix* Raymond 1937 *partim* pl. 3 fig. 8 p. 479 pl. lvii fig. 38, SHAW 88.

Pygidium No. 5 [resembles *Kingstonia scrinium*] p. 472 pl. lvii figs. 40, 41, SHAW 88.

P[t]ygidium No. 6 [tentatively associated with *Meteoraspis ? minuta*] revised identification of *Paracrepi-cephalus* cf. *P. thoosa* (Walcott) Raymond 1937 p. 476 pl. lvii fig. 11, SHAW 88.

Pygidium of trilobite (Styginid ?) p. 172 pl. iv fig. 12, SKJESETH 91.

Trilobite pygidium gen. undet. [associated with *Acrocephalops matthewi*] p. 105 pl. vii fig. 13, HUTCHINSON 35.

Undetermined trilobite [pygidium] p. 123 pl. ii fig. 16, CHANG 8.

Tracks tentatively attributed to trilobites Silurian Argentina pl. iv figs. 2a–c, RUSCONI 82.